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Original Articles

GONORRHEAL ARTHRITIS.*

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Gonorrheal arthritis is a specific infection of one or more joints, occurring as a sequela or complication of gonorrhea, usually in its subacute or chronic stages, only a very limited number of cases having been reported during the acute stage of gonorrhea. The oft repeated expression that this disease is not equal to a "bad cold" must be corrected by the profession. The falsity of this description is quickly appreciated by its unfortunate victim, should arthritis develop, as few joint troubles are so painful. The infection is transmitted usually by the blood, and therefore is a general infection in which the joint pathology is but a local manifestation, and while the local symptoms are the principal ones to attract the attention of both patient and physician, my observation is that the general system suffers far more seriously than is usually appreciated.

ETIOLOGY.

The infective agent is primarily the gonococci, or the toxins generated by them, and in very severe cases the germs are present in the fluid which forms in or around the joint; while in the mild cases they are frequently absent, but the toxins are responsible for the lesion in the joint. In the suppurative cases, which are fortunately not common, there is a mixed infection and the pyogenic bacteria (usually of the staphylococcus variety) predominate.

In the vast majority of cases the infection is disseminated from the primary focus in the urethra, or from a gonorrheal vesiculitis, but it is a mistake to contend, as do some writers, that this is always true, as cases have been reported following gonorrheal ophthalmia, and arthritis has developed in cases of ophthalmia neonatorum. It is also worthy of notice that gonorrheal infection has been reported to have primarily attacked wounds, and arthritis has been developed from this focus of infection by Kimball as gonorrheal pyemia.

In gonorrheal arthritis, as in all infections, there is great variation in the individual susceptibility. This, as in other diseases, must be considered in the development of arthritis, and its tendency to return under favorable conditions.

I am unable to accept the statement of some authors that a rheumatic subject is more liable to gonorrheal arthritis, except in the possible lessening of the resisting powers of tissues previously affected by rheumatic inflammation. We must appreciate the fact that they are independent infections, and that gonorrheal rheumatism is incorrect and misleading, and should not be used in text-books.

PATHOLOGY.

Gonorrheal arthritis occurs in two forms, which are not infrequently combined. In one type, the synovial membrane is inflamed, the effusion is in the intra-articular structures, and permanent ankylosis may follow. In the other type the periarticular structures are the principal tissues affected by the infection, with very little or no effusion in the joint proper, but there may be marked infiltration of the surrounding structures. The parts are edematous, with softening of external ligaments. Fascia contractures are not infrequent, as in plantar region, leaving stiffness. The Achilles and other large tendons are sometimes painfully inflamed. The amount and character of the effusion varies according to the severity of the attack. It is serous in the majority of cases, but may vary in the mildest form from serum with flocculent lymph to all grades of infective fluid, to a seropurulent or purulent accumulation. While, as a rule, one or two joints are affected, and those most commonly involved are the knee, ankle and wrist, in severe cases no joint in the body is immune, as the sacro-iliac and the sterno-clavicular, which as has been pointed out, are rarely, if ever, involved in articular rheumatism. In my experience, the left knee has been the joint involved with greater frequency.

SYMPTOMATOLOGY.

Gonorrheal arthritis may be divided into two clinical types, acute and chronic. In the acute the onset is sudden, with a chill or chilly sensations, a moderate rise of temperature, rarely above 102 to 103 F., a heavily coated tongue, full bounding pulse, constipated bowels, scanty high colored urine, which may be albuminous, always flocculent. In this type rarely more than one or two joints are involved, but the swelling is rapid and the skin over the joints is red and tense, and very sensitive to the touch. Pain, the most prominent symptom, is sometimes excruciating, and is exaggerated on motion. In a few days the joint pains subside in a measure, and the parts become edematous and fluctuant, the fluid usually being serous in character, but if it becomes purulent, then we have the additional symptoms of repeated chills, irregular fever and sweats. The discharge from the original site of infection often lessens, or stops entirely, during an acute attack of arthritis, but will reappear usually on the subsidence of the joint trouble.

These attacks may run a rapid course and convalescence may be satisfactory, but it must be remembered there is a marked tendency to return under favorable conditions. Ankylosis in this type is rare, but even after all acute symptoms have disappeared, the stiffness and swelling of the joint subside very slowly.

In the chronic type the symptoms are not so acute and marked decline in general health suggests general in-

* Read in the Section on Practice of Medicine of the American Medical Association at the Fifty-seventh Annual Session, June, 1906.

fection. In this there is progressive loss of weight and strength, anemia is marked, the skin is sallow, the appetite is lost, the muscles lose their tone, and general exhaustion, with malaise, shortness of breath and loss of energy is noted. The pulse is often slow and compressible and unstable, becoming rapid on exertion or excitement. Palpitation of heart is common, even pain in the precordial region is sometimes present, and occasionally endocarditis. In the more severe cases digestive disturbances with lumbar tire or aching will be found, the urine is scanty and high colored, containing pus and shreds floating in specimen. The joint symptoms may be mild, or absent at intervals, but with a tendency to return. Sometimes this occurs after the passage of a sound in a chronic gleet, or even following strong urethral injections. I have known a joint trouble to develop following a nocturnal carousal. In these subacute or chronic cases, there may be a mild grade of fever, or it may be absent, the joint is not so hot and red, it may even be glazed and white in appearance, resembling a tuberculous joint, but more commonly it is a dark red or a leaden hue, the pain, at times, may be severe, but is not, as a rule, so great as in the more acute cases. The arthritis in this type is usually multiple, and while the edema and effusion may be considerable, yet in some the joints may be but little enlarged. Ankylosis is the rule, unless treatment is prompt and efficient.

DIFFERENTIAL DIAGNOSIS.

Differential diagnosis from acute inflammatory rheumatism should be easy in most cases. In gonorrheal arthritis the presence of the primary disease, while not pathognomonic, is important, the fever is not so irregular, the lactic acid sweats are absent, the joints are brighter red, more painful and tend more to suppuration. While this is rare in both, yet it is more common in gonorreal arthritis. There is not that sudden subsidence of trouble in one joint, and the sudden involvement of another, as seen in acute rheumatism. The endocardium is rarely involved in gonorrheal arthritis. The case is much more prolonged and does not yield to the salicylates. The differentiation between the chronic form and tuberculous arthritis is more difficult, as was proven in a case I recently saw. In both the health is gradually on the decline. In both variable temperature exists, and many other symptoms in common might be mentioned, but I shall pass on to the differences.

In chronic gonorrheal arthritis we usually have multiple joints involved; not so in tuberculous, yet the opposite may be true in both. The joints are more painful, more swollen, have some redness and have larger effusions and more tendinous involvement, more edema than in tuberculous cases, when the joints are often white and glazed in appearance, and the trouble is more central, often involving the epiphyses of the bones. The patient has a tuberculous tendency, dates his trouble back to some slight injury, whereas in gonorrheal arthritis it is dated back to an old gonorrhea. In the case mentioned, only the left knee was involved, and the lymphatic glands in the left groin were enlarged, which might exist in both, but examination of fluid from the joint showed no tubercle bacilli or gonococci. The fact, however, that the effusion, which was sero-purulent, was in the periarticular structures, and was in large amounts, and the boy had an uncured case of chronic gonorrhea, and a removed inguinal gland was septic, together with the absence of any tuberculous history or lesion elsewhere, forced me to the conclusion that it was not of tuberculous but gonorrheal origin. In the fear that I may make this paper too long, I shall not pursue the differentiation further, but respectfully suggest that the tendency of the profession to call all joint trouble rheumatism is far from correct.

PROGNOSIS.

The prognosis in gonorrheal arthritis is always uncertain, and I do not think the serious character of the initial disease is appreciated, as is well shown by the utero-tubal troubles seen in innocent women after marriage, or in the constitutional disturbances and arthritis which may develop years after the acute gonorrhea has disappeared.

The infection is often latent, especially in the glandular type, as in the cases reported in which the germ has been found in the semen for years, and while in these cases it is usually innocuous, yet it is sufficient proof of the difficulty of cure, and impresses the necessity of the profession teaching the laity that marriage is a crime when an uncured case of gonorrhea is present or suspected. Should endocarditis develop it is due to the gonococci, not to the toxins, and is always of grave prognostic importance. It should be remembered that ankylosis is prone to occur, and is often permanent.

TREATMENT.

Treatment is as varied as it is unsatisfactory. In the acute types rest in bed, fixation of joint by splints to relieve pain which may be so severe as to demand an opiate. In England they insist on large doses of quinin. Local applications, hot or cold, are often grateful, one of the best local applications being a 50 per cent. ichthyol ointment early in the case. Internal administration of drugs rarely influences the trouble, and is not advisable, except to meet symptomatic conditions. The salicylates are harmful, and add to the patient's discomfort by disturbing the stomach, and yet they are almost universally given. In chronic cases general reconstructives are useful, and potassium iodid. In both the cure of the initial lesion is to be recommended as rapidly as possible.

I can not agree with the writers who condemn all surgical interference. Great benefit is often derived, according to the case. In some, strapping the joint with adhesive plaster, being careful not to surround the whole joint, will give relief. In others, aspiration must be advised, and in suppurative cases incision and drainage is the only treatment.

Some very remarkable cures have been reported by Dr. Fuller of New York, who insists that the infection comes from a gonorrheal vesiculitis, and by opening and draining them immediate amelioration of the arthritis takes place. With this I can speak only of one case operated on by Dr. W. A. Bryan of Nashville. The case was of two years' duration, and great emaciation and general bad health existed. Both knees were swollen and painful. Much relief followed the operation, and rapid improvement of the arthritis was noted in a few days. In view of the pathology in the joint and the presence of the infective agent found in the effusion, it is difficult to explain the rationality of this treatment.

Free Antitoxin.—Dr. Geo. Webster (*Bulletin Ill. State Board of Health*, October, 1906) advocates that the state of Illinois furnish diphtheria antitoxin to its citizens free of cost on the ground that "an ounce of prevention is worth a pound of cure"; that it is primarily a means not of curing the disease, but of preventing it.

REVIEW OF THE BACTERIOLOGY OF ACUTE ARTICULAR RHEUMATISM.*

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The view that regards acute rheumatism as an infectious disease has now gained such general acceptance and has so completely superseded the older "chemical" and "neurotrophic" theories as to its nature that time need not be taken to review the facts which have led to such a general belief.

With the growth of this idea of the infectious nature of the disease it was but natural that a search for the infectious agent should begin and but natural also, considering the importance of the disease, that the search should be both eager and persistent.

To trace in detail the history of this search for the microbic cause would take us far beyond the scope of this brief paper. A great amount of work on this subject has been done during the past ten years and we can hope only to review briefly the results of this work.

As was perhaps to be expected, these results are far from being uniform and consistent. Different investigators have reached very different and conflicting conclusions, which, however, may be grouped under the following heads: 1. That acute rheumatism is not caused by any one organism, but is a particular reaction to various infections. 2. That the disease is only an attenuated pyemia resulting from infection by the common pyogenic streptococci and staphylococci. 3. That the disease is due to a specific anaërobic bacillus. 4. That it is due to a specific diplococcus or streptococcus. 5. That acute rheumatism is a specific infectious disease whose microbic cause has not yet been discovered. Thus it will be seen that there is disagreement not only as to the special organism causing the disease, but also as to whether it is a definite and specific disease at all.

IS ACUTE RHEUMATISM A SPECIFIC DISEASE?

Obviously the first point to be decided, if possible, is whether acute rheumatism is a distinct and specific disease. To most of us, I fancy, the answer will seem so simple and clear as hardly to warrant a serious discussion of the question, and it will come to us as something of a shock to find so sound a man as Chvostek[1] willing to make such a statement as the following:

> A separation of the so-called genuine articular rheumatism from the pseudo-rheumatic or rheumatoid affections is not possible. The small group of cases in which we do not know the exciting agent and its portal of entrance, and which for this reason we class together as a single disease, is constantly growing smaller, and the time may not be distant when acute articular rheumatism, as a distinct disease, will find its well-deserved end.

The view that acute rheumatism is not a disease *sui generis* has been advocated also by Birch-Hirschfeld,[2] Sahli,[3] Singer,[4] Menzer[5] and others. Birch-Hirschfeld, Sahli and Singer are convinced that the disease is only a modified and attenuated pyemia caused by the common pyogenic cocci. Singer especially has been aggressive in upholding this idea and insists that further search for a specific agent is merely a waste of time. Menzer regards the disease as the result of infection through the tonsils by the ordinary parasites of the mouth (chiefly streptococci), which for some reason have become pathogenic.

Against the view of these few investigators must be set the almost unanimous belief in England and America and that of the great majority of observers on the Continent that rheumatic fever, not only in its clinical picture, but in its pathogenesis as well, is a single and specific disease. The frequency of the disease; its seasonal relationship and epidemic character; its distinct and characteristic clinical course; the frequency and specificity of its visceral and other abarticular manifestations; the tendency to complete recovery, as well as the proneness to subsequent attacks; its specific reaction to the salicylates—all these and many other facts point toward the view that rheumatic fever is a distinct clinical and pathologic entity and not merely an atypical form of sepsis of heterogenous origin.

Singer bases his belief chiefly on the postmortem bacteriologic findings in cases of rheumatism or rheumatic chorea in which he found now streptococci, now staphylococci, in the blood and tissues. The very fact that different organisms were recovered from different cases would suggest strongly that he must have been dealing with cases in which there had been a secondary or terminal infection such as is so commonly found in various other infectious diseases. The idea that acute rheumatism is only a clinical syndrome which may be produced by the action of any of the ordinary pyogenic cocci can, it seems to me, be dismissed from further consideration.

HAS ITS MICROBIC CAUSE BEEN FOUND?

Assuming, then, that it is a specific disease, we have now to consider whether or not its microbic cause has been found. In 1897 Achalme[6] described a large, spore-bearing anaërobic bacillus which he found in the postmortem examination of cases of rheumatism and which he believed to be its cause. This view was endorsed by Thiroloix and others in France. Further investigations, however, have demonstrated that this was almost certainly a contaminating organism and Achalme's claims have been almost universally rejected.

The assertion that the bacterial cause of acute rheumatism is a specific diplococcus or streptococcus can not be dismissed so readily. As early as 1894 von Leyden[7] found in the inflamed endocardium of several cases of rheumatism a fine diplococcus. A similar diplococcus was found by Triboulet[8] and others in France. In 1899 Wassermann,[9] in a fatal case of postrheumatic chorea recovered from the heart blood, from the heart valves and from the brain a fine streptococcus which grew with difficulty, but which in a series of eighty rabbits regularly produced joint inflammations.

The Work of Fritz Meyer.—This work was soon followed by that of Fritz Meyer.[10] Meyer examined in some thirty cases of rheumatism, during life, the blood and joint contents with absolutely negative results. As a result of these negative findings he was led to examine the inflamed tonsils in cases of rheumatism with the idea that the organism might be found only there and that the joint symptoms might be caused by its toxin alone. After making broth cultures of the mixed growth of bacteria found in such inflamed tonsils he injected this

* Read in the Section on Practice of Medicine of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906

1. Wien. klin. Wochschr., 1895, p. 469.
2. Verhand, VII Congress. Inn. Med., 1888, p. 346.
3. Deutsch Arch. f. Klin. Med., 1892, vol. ll, p. 451.
4. Verhand, XIX Congress. Inn. Med,, 1901, p. 441.
5. "Die Aetiologie d. Acute Gelenksrheumatismus," Berlin, 1902.
6. Ann. de l'Inst. Pasteur, 1897, p. 845.
7. Deutsch. med. Wochschr., 1894, p. 913.
8. Compt. rend. de la Soc. de Biol., 1898, vol. v, p. 214.
9. Berliner klin. Wochschr., 1899, No. 29, p. 638.
10. Ztschr. f. klin. Med., 1902, vol. xlvi, p. 311.

culture intravenously into rabbits, and in the exudate of the inflamed joints which resulted he found only one kind, a diplococcus, and this only in small quantities.

In this way he isolated the same organism from the throats of 25 cases of rheumatism. This diplococcus produced in rabbits very characteristic joint inflammations, in which the lesions were confined solely to the synovial membrane. The organisms could be found in the mononuclear leucocytes and in the endothelial cells, but not in the blood nor in the serous effusions of the joints. On the other hand, if he injected the ordinary streptococci and staphylococci he produced much more severe and destructive lesions of the joints and the organism could always be recovered from the blood. In another series of rabbits he injected the specific diplococci and some staphylococci together, and in a few days the animal showed in the blood only the staphylococci and in the joints only the diplococci. He then sought to determine if this organism possessed any special tendency to excite endocarditis, and in a series of 100 rabbits, without previously injuring the heart valves, he produced endocarditis twenty-one times. In these the blood, and sometimes also the valve vegetations, were sterile. In a control series of 100 rabbits, using other bacteria, he produced endocarditis only twice. Meyer's work impresses one as careful and thorough and, because of the large number of control experiments, seems entitled to serious consideration.

The Work of Poynton and Paine.—During the past five years the idea that a special diplococcus might be the exciting cause of rheumatism has received considerable support from the work of Poynton and Paine[11] and their followers in England. The results of their work is briefly as follows:

In 32 cases of acute rheumatism they have isolated a diplococcus which they believe to have specific characteristics and to be the cause of rheumatism. They have recovered the organism in culture from the heart blood after death, from fragments of the valve granulations, from the throats of rheumatic patients, from the urine in rheumatic pericarditis and three times from the circulating blood. They have demonstrated the diplococcus in tissue from the heart valves, pericardium, tonsils, pleura and from a subcutaneous fibrous nodule. Inoculated into animals the organism produces polyarthritis, endocarditis, bursitis and teno-synovitis. Moreover, in four fatal cases of rheumatism, in three of which there was chorea at the time of death, they isolated and cultivated the diplococcus from the cerebrospinal fluid; three times in chorea they demonstrated the organism in the cerebral pia mater and once in the brain. They are inclined to believe that rheumatic chorea is due to a slight meningo-encephalitis caused by the local action of the specific diplococcus. Poynton and Paine emphasize the fact that the diplococcus is not to be found in the circulating blood nor in the joint effusions of ordinary cases of rheumatism. It is only in the very severe and fatal cases that it can be readily discovered. In the joints the organism is found in the areolar tissue beneath the synovial membrane, but, because of the phagocytic action of the cells lining the membrane, it is not usually to be found in the joint fluid. They believe that, while there is no single specific test by which the organism can be distinguished from the ordinary streptococci, it nevertheless possesses a number of qualities which together differentiate it from them. These features are briefly: its minute size, its greater tendency to grow in pairs, its feeble retention of Gram's stain, its greater resistance to drying, its earlier and greater production of acid, its ability to grow readily in filtered cultures of *Streptococcus pyogenes* (Marmorek's test), and, finally, its more constant tendency to produce polyarthritis and endocarditis in rabbits, its low grade of virulence and its freedom from the production of pyemic abscesses. They believe their diplococcus to be identical with the diplococcus of Triboulet and Meyer and the streptococcus of Wassermann and to be the specific agent in the causation of rheumatic fever, and they suggest for it the name *Diplococcus rheumaticus.*

Their work has been supported by that of a number of other observers in England. Beaton and Walker[12] isolated a similar organism in 15 cases of rheumatism, chorea and rheumatic endocarditis. Walker and Ryffel[13] found that this diplococcus had a hemolytic action greater and more rapid than that of any streptococcus they examined and suggest that the rapid development of anemia in rheumatism may find its explanation here. They also showed that the organism was peculiar in that it produced relatively large amounts of formic acid, and this acid was present in considerable amounts in the urine of those suffering from rheumatism. Shaw[14] procured from Poynton, Walker and Wassermann cultures of their respective organisms and, after studying them culturally and experimentally, concludes that all three organisms are identical. All of them produced in rabbits and monkeys arthritis, pericarditis, endocarditis and myocarditis. He believes that this organism is the causal agent in rheumatism. Beattie,[15] who also confirmed Poynton and Paine's work, believes that he has produced in rabbits chorea as well as polyarthritis and endocarditis.

In this country Lewis and Longcope[16] report the finding of a streptococcus in the blood, during life, of a fatal case of rheumatism, endocarditis and chorea, which in rabbits produced constantly a very characteristic polyarthritis and which they believe to be identical with the coccus described by Wassermann, Meyer and Poynton and Paine.

Whether the bacterium under discussion should properly be classed as a diplococcus or as a streptococcus is of much less practical importance than is the question whether the cocci described by Triboulet, Wassermann, Meyer, Poynton and Payne and others are one and the same organism. While a positive answer to this question is not possible, it may be said that the morphologic and cultural features agree very well in the main; that the results of animal inoculation are surprisingly consistent and uniform and that the writers themselves seem to be in very general agreement as to the identity and unity of these organisms.

Arguments of Opponents.—Turning now for a moment to those who believe that the infective agent of rheumatism has not yet been found, it must be said that to this number belong the great majority of those who have carefully investigated the subject. The arguments against the claims of the *Diplococcus rheumaticus* are chiefly four:

1. That many careful investigators (Pribram,[17] Phil-

11. Lancet, 1900, II, p. 861; also Brit. Med Jour., 1901, II, p. 779; Zentralbl. f. Bact., 1902, xxxi, p. 502; Lancet, 1905, II, p. 1760.

12. Brit. Med. Jour., 1903, vol. I, p. 237.
13. Brit Med. Jour., 1903, vol. II, p. 659.
14. Jour. Path. and Bact., 1904, p. 158.
15. Brit. Med. Jour., 1904, vol. II, p. 1510.
16. Amer. Jour. Med. Sciences, 1904, vol. cxxviii, p. 601.
17. "Der Acute Gelenksrheumatismus," Nothnagel Series, vol. v, Part I, p. 322.

lip,[18] Menzer,[3] Lenhartz,[19] Canon,[20] Cole[21] and others) have had uniformly negative results from the bacteriologic examination of the blood and joint fluid during life in large series of cases of undoubted rheumatism.

2. That the morphologic and cultural characteristics for *D. rheumaticus* are not sufficient to differentiate it certainly from other varieties of the streptococcus.

3. That the ability to produce in rabbits arthritis and endocarditis is by no means peculiar to this organism, but is shared by the common types of streptococci and staphylococci.

4. That the finding of a coccus in the blood or tissues shortly before death, or postmortem, may be readily explained by assuming either that the case has been one of septic disease and not of true rheumatism, or that to the rheumatic infection has been added a terminal streptococcus infection, such as is often seen in such other infectious diseases as scarlet fever, diphtheria, smallpox, etc.

The fact that most observers have failed to isolate any organism from the circulating blood or joint fluid should not, in itself, I think, be given much weight in opposing the claims of the diplococcus. It was just such negative results that led Meyer to direct his attention to the tonsils, with the idea that the germs might be localized there and that the joint symptoms, in many cases at least, might be due to their toxin alone. Poynton also insists that the organism is rarely to be found in the circulating blood or in the serous joint effusions, and both writers believe that the germs should be sought for in the periarticular tissues rather than in the contents of the synovial sac.

Whether the diplococcus possesses at present morphologic and cultural pecularities sufficient to separate it with certainty from other streptococci is open to doubt. Even those who believe in the specificity of the organism are not in accord on this point. The English workers, for the most part, believe that it can be so differentiated. Meyer, on the other hand, could separate his organism from the various other cocci of the throat only by the inoculation into rabbits. The question is one of much complexity and difficulty and must be left for further bacteriologic study to settle.

That the common forms of pyogenic cocci are capable of producing joint inflammations in animals has been repeatedly demonstrated. Cole,[21] especially, has shown recently that various strains of streptococci, when introduced intravenously into rabbits, are able to produce an arthritis similar to that described as resulting from the *D. rheumaticus*. In two instances out of twenty-one the inoculated rabbits showed endocarditis as well, and Cole concludes that one is not warranted in describing a distinct species of streptococcus merely on the basis of this property of producing arthritis and endocarditis in animals. On the other hand, most of the workers with the diplococcus have been impressed with the constancy and fidelity with which the inoculated animals have reproduced the lesions of rheumatism in man. Meyer especially offers a large series of control experiments to show the marked differences between the lesions produced by the diplococcus and those excited by the common pus-forming organisms.

The only effective answer to the fourth argument against the claims of the diplococcus can be that the organism found in the blood and tissues of these severe and fatal cases is not any of the usual pyogenic cocci, but is a specific diplococcus and is identical with that found in the inflamed tonsils only, in the milder cases. It will be seen, therefore, that the whole case for the *D. rheumaticus* rests on the proofs of its specificity and identity. Thus far the evidence offered can hardly be said to be convincing on this point. Nevertheless, the fact that so many workers, in different countries, should have obtained results so strikingly uniform and similar is interesting and impressive and can not be dismissed lightly. These results justify and demand, it seems to me, further careful investigation along these same lines.

18. Deutsch. Arch. klin. Med., 1903, vol. lxxvi, p. 150.
19. "Die Septischen Erkrankungen," Nothnagel Series, p. 187.
20. "Bacteriologie des Blutes bei Infect. Krankh.," Jena, 1905, p. 53.
21. Jour. of Infectious Diseases, 1904, vol. i, p. 714.

CONCLUSIONS.

We are justified, I think, in believing:

1. That acute rheumatism is a specific, infectious disease, and is not merely an attenuated pyemia resulting from the common pyogenic organisms.

2. That the bacillus of Achalme has no etiologic relation to acute rheumatism.

3. That while there is considerable evidence in favor of the view that the disease is caused by a specific diplococcus or streptococcus, positive proofs of the specificity and identity of this organism and of its causal relation to rheumatism are still lacking.

DIFFERENTIAL DIAGNOSIS OF RHEUMATOID JOINT AFFECTIONS.*

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The title of this paper, if liberally interpreted, might lead one to discuss the differential diagnosis of a great variety of joint affections that present certain features resembling those of true rheumatism and which might, therefore, be called rheumatoid.

Rather arbitrarily, perhaps, I shall narrow the discussion and not consider such conditions as sarcoma of the joint, ordinary monarticular tuberculosis, sprains and other traumatic arthritides, though, as is well known, there is often a necessity for differentiating between rheumatism and these conditions. Nor shall I do more than mention the arthritides occurring in connection with definite infectious diseases, such as scarlatina, pneumonia, epidemic meningitis, septicemia, pyemia, etc. Here diagnosis is comparatively easy if the existence of the primary disease is known, though in some instances, e. g., during convalescence from a mild and ambulatory scarlet fever, diagnosis may not be simple.

In epidemic meningitis, too, joint pains with articular and periarticular swellings may be early and somewhat confusing, though the equally early cerebral and spinal symptoms usually give the clew. Mistakes in regarding as rheumatism an arthralgia or arthritis, even a suppurative arthritis, of septicemia are made, but it is generally due to hasty study of a case rather than to any inherent difficulty in differentiation. The fact that just preceding an arthritis there has been a definite infectious disease should lead one to hesitate before deciding on true rheumatism. And the arthralgias, etc., following injection of diphtheria antitoxin and other therapeutic sera should be thought of.

Laying these affections aside, therefore, there still remain a goodly number of joint troubles more or less

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rheumatoid in type whose exact recognition is no easy task. I mean such conditions as gout, arthritis deformans, gonorrheal arthritis, some of the arthropathies of nervous diseases, the joints of hemophilia, scurvy and the purpuras, some cases of tuberculous polyarthritis, etc. Their exact recognition is not easy because there is no accurate etiologic classification, because differentiation on the basis of postmortem morbid anatomy is none too clean cut and the anatomic changes *intra vitam* are not always easily recognized and are liable to be confused one with another.

Diagnosis, therefore, becomes in a measure empirical and one must depend on a study of symptoms and signs, mode of onset and advance of the disease, temperature, pulse, number of joints involved, predilection for certain joints, anatomic characteristics of the local lesions, lesions in other organs and tissues, *x*-ray examination, tendency to relapse and influence of therapy in order to arrive at a diagnosis that has in it a reasonable probability of truth. Such a study, often involving some little time, usually results in a diagnosis as accurate as our still imperfect classification permits. Yet borderland cases occur in which the line of demarcation is blurred and in which one physician might claim the case as one of chronic rheumatism, another as gout, a third as arthritis deformans. What I shall say will be chiefly in the way of suggestive hints as to diagnosis and of trying to emphasize certain facts concerning which there has been, and is still in the minds of many, misapprehension. No detailed exposition of this formidable topic is attempted.

1. Arthritis Deformans.—There are three notions concerning this disease that are rather widespread and that are really wrong, at least only partly true. These are that arthritis deformans is always chronic in onset and course, does not cause fever and begins in the small joints. These statements may be true, as a rule, but exceptions are numerous. In fact, the more carefully these cases are observed the oftener is it found that supposed chronic rheumatism with recurrences in the shape of acute exacerbations is in reality arthritis deformans with acute manifestations or gout.

The onset is often rather abrupt with distinct pain, redness and swelling of the affected joints and with rise of temperature, say 101° or even higher. And in not a few instances the joints first involved either acutely or gradually, may be the larger ones, as the knee or shoulder. These facts easily lead to confusion. Many sidelights are thrown on these cases by a consideration of details. In the acuter type of arthritis deformans there is not the shifting of the process from one joint to another as in acute rheumatism, or, to put it in another way, though one joint after another may be involved, those first involved do not clear up as the trouble advances but show more or less persistent signs of damage. Another point, emphasized by Spender, is the rapid pulse. Even in the chronic cases a pulse of 90 to 110 is common. The profuse, drenching sweats of acute rheumatism are lacking, endocardial and pericardial complications are scarcely ever seen. Salicylates are comparatively inert.

The acute process is slower to subside than in acute rheumatism and as time goes on one may see suggestive indications that one is in reality dealing with arthritis deformans in the muscular atrophy, the increased reflexes, the local, particularly palmar cold sweating, the tremors and in the characteristic osteophytic growths and atrophic joint changes and the beginning deformities. This possible acute onset of polyarticular arthritis deformans and the fact of acute febrile exacerbations of the more subacute and chronic forms should be kept in mind and looked on as of not infrequent occurrence. In reality such an onset is common. Thus McCrae[1] found a sudden onset in over 40 per cent. of 92 cases.

It is true that the small joints of the hands show early and frequent involvement in arthritis deformans and that the deforming changes are here more marked than in rheumatism. But it is important to remember that similar changes are seen in the larger joints, the knee, hip, shoulder, that these changes may be earlier than those in the hands and the pain and deformity more marked. Arthritis deformans is more apt to attack the temporomaxillary, sternoclavicular and vertebral joints than in true rheumatism and this may help in diagnosis. Heberden's nodes, though often absent in the severer types, may disclose the nature of the joint affection. I have sometimes seen physicians hesitate to declare a case arthritis deformans because of the evident presence of a considerable amount of fluid in a joint. This can often be found as in the knee, elbow, wrist, knuckles, and it should not be forgotten that in some cases (some say a special type of the disease) atrophic and not hypertrophic changes are met with, the fusiform and other swellings being not bony but due to thickened capsules or capsules distended with fluid.

Localized spondylitis may simulate tuberculosis of the vertebræ with pain and other cord symptoms due to pressure, and thus be harder to recognize than the more massive rigidity of the back due to panspondylitis. In some of these cases of local spondylitis careful search may reveal a stray joint here and there in some other part of the body involved in typical manner that betrays the nature of the vertebral disease. Thus, I have seen the rather obscure nature of a torticollis in a morphin habitué, with stiffened cervical joints, cleared up by finding one thumb and finger typically deformed. In the same way a solitary thumb gave the clew in a peculiar symmetrical, painful, osteophytic deformity on the outer side of the tarsus in an elderly woman.

Some of the earlier symptoms described by patients sound like the stories of neurasthenic or hysterical individuals. Spender[2] mentions a burning in the hand, a sudden weakness in the hand, a tenderness along the carpus, a sudden chilliness, a sudden weakness so that small objects are dropped, numbness, a feeling that the fingers are "going to be paralysed." If these sensations are really present in a woman who is neurotic or even hysterical—and such associated neurotic condition is often found—it may be that a serious blunder is made in not recognizing the true nature of the ailment until joint changes become so prominent as to attract the notice even of the physician, whose attention has heretofore been wholly taken up by what he has been pleased to regard as hysterical exaggeration. This lesson was taught me about twelve years ago by an experience with a woman who, with complaints of pain, paresthesiæ, etc., had hysterical aphonia, amaurosis, what I took for hysterical arthralgias, etc., but who gradually and uninterruptedly developed one of the worst cases of arthritis deformans I ever saw.

1. McCrae, Thomas: "Acute Articular Rheumatism," THE JOURNAL A. M. A., vol. xl, p. 211.
2. Spender: In Allbutt's "System of Medicine," vol. iii, p. 81.

Diagnosis is often helped by the *x*-ray revealing the bony nature of the deformities or the atrophic changes in the joints. And I have learned to look on a supposed polyarticular chronic or subacute rheumatism that is treated at the springs or baths and is worse than before, or at least no better, as a case acting suspiciously like arthritis deformans, for I have never seen any good in this disease come from the baths as such.

One must not forget that polyarticular deforming arthritis occurs in children, often with glandular and splenic enlargement (Still's disease).

The early recognition of arthritis deformans is of great importance from the standpoint of prognosis and therapy. Too often the incorrect diagnosis of rheumatism, more rarely of gout, leads to an unnecessary or even decidedly harmful restriction of diet, to a useless course of treatment at the baths, or a needless deluging of the system with salicylates, colchicum, etc. Of the recognition of the Heberden's nodes and the monarticular form, e. g., morbus coxæ senilis, I will not speak, though the possible existence of this latter deforming arthritis limited to one or two large joints should always be remembered in attempting to explain an obscure affection of some of these articulations.

2. Gout.—A few words concerning gout. There are some rather prevalent misconceptions concerning the clinical features of this disease that if removed will make it oftener recognized. In the first place, gout is commoner in the United States than is generally believed. Either the disease is on the increase here, or we are recognizing it oftener; perhaps both statements are true.

In the second place, it is by no means confined to the well-to-do or the high livers. I recall seven cases of gout seen since January 1, 1906. Two of the patients were wealthy, had lived well but were in no sense of dissipated habit; a third was a fat adult who had worked in a brewery and consumed much beer; a fourth was a moderate beer drinker who worked on a delivery wagon; the fifth was a paper-hanger and calciminer; the sixth, an old negro, a painter, who had perhaps had lead poisoning and whom I had once treated in the hospital for what I called rheumatism; the seventh was an old lady of 65, in moderate circumstances, whose tophi left no doubt as to the gouty nature of her joint changes. This, by the way, is the only case I have seen in woman. Beer drinking, lead intoxication, heredity, intemperance as regards quantity of food with poor utilization of the food largely through a sluggish or sedentary mode of life, seem to be the most potent agents in causing gout, at least in this country. So it is not exclusively confined to the upper classes.

A third fact is often lost sight of by the practitioner. Somehow he gets the idea that the patient with gout will come to him with the atypical big-toe arthritis, testy of temper, eczematous and rich. When a poor, meek, good-natured chap consults him for a lame knee and a swollen wrist and stiff finger joints, the thought of gout doesn't occur. But it should occur in all atypical rheumatism, especially when there is frequent recurrence with tendency for the joints to show more and more a condition of chronic stiffness, soreness and swelling. Now, while it is comparatively rare, at least in my experience, to be called to see a patient with the typical acute, febrile big-toe attack there is nothing, except the finding of tophi, so valuable from the standpoint of diagnosis and so frequently found as a history of such attacks. Very often, indeed, the history will show that the first attacks of "rheumatism" were limited to the great toe. This should always be regarded as suggestive. But because, later, other joints are implicated or bear the brunt of the attack and suffer most from permanent changes, one should not by any means throw out gout.

Tophi are generally sought for in the ear. They may be exceedingly small and readily overlooked. Doubtful small whitish spots should be pricked and the contents examined microscopically for crystals. But other regions should be examined for tophi, not only the cartilages of the nose and larynx, but the vicinity of the joints. I think oftentimes tophi are overlooked because they are very small, but, perhaps as often, because they are so large and so soft. "Chalk-stones" seems to imply hardness and the soft tophus is passed over as an inflammatory exudate, a thickened capsule, or perhaps a swollen bursa, as anything except a "stone," and the physician who has, perhaps, seen only small tophi on the ear is not prepared for some of the larger deposits sometimes seen about the fingers, wrists, elbows, knees, etc. An inquiry into the history will sometimes reveal the fact that swellings, yellowish or whitish in color, have been present on the ear or about the joints, have disappeared spontaneously or have ruptured and discharged. The *x*-ray may show deformity, but shows a lack of osteophytic thickening such as is seen in the arthritis deformans.

In cases of long standing, cardiovascular and renal changes can generally be made out. The urine is often of the type met with in chronic interstitial nephritis, the palpable vessels show sclerotic changes, cardiac hypertrophy is common and symptoms suggestive of chronic fibrous myocarditis may be present. An asthmatic tendency with emphysematous changes in the lungs can occasionally be made out. A study of the urine in cases for any length of time under observation may show typical variations in the output of uric acid and phosphoric acid in the intervals and during the attacks, both being low in the intervals and increased soon after the more acute joint symptoms occur. Futcher's[3] charts along this line are very instructive.

If one takes into consideration these points, if he is on the lookout for gout, is ready to meet it in people of all classes, watches for tophi, gets the big-toe history from the beginning, examines for cardiovascular accompaniments of the disease, studies the uric acid and phosphoric acid output, employs the *x*-ray, he will generally be sure of his diagnosis. Yet without tophi there are occasionally cases that are not only difficult of recognition, but baffling and in which a provisional diagnosis must be temporarily made.

The arthropathies of nervous diseases and gonorrheal arthritis are discussed in this symposium by others; I, therefore, omit all reference to them.

The joints of scurvy and hemophilia deserve mention, but lack of time forbids their consideration. Suffice it to say that the evidence at the time, of the hemorrhagic tendency, or the history of the same, usually puts one on the right track. The same may be said of the joints of the purpuric group of diseases.

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3. Futcher, T. B.: The Practitioner, August, 1903.

Damages for Publishing Testimonial.—A Paris pharmacist advertising a certain "infallible remedy" published in his circulars some testimonials from patients stating that they had been cured of certain maladies by the remedy. One of the writers, a woman, sued the pharmacist for damages and the court decided in her favor, allowing her $60 damages.

JOINT AFFECTIONS IN NERVOUS DISEASE.*

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America has the honor of having first seriously directed the attention of the medical world to the intimate relation between disease of the joints and of the nervous system. Since Dr. John Keasley Mitchell[1] wrote his suggestive articles in 1831 and 1833 our knowledge of this relation has made remarkable progress.

If we leave out of consideration the atrophic joints and limbs of the cerebral and spinal palsies of children and the joint changes in acromegaly the most important joint affections in nervous disease fall into the following groups:

1. The intermittent joint effusions (*hydrops articulorum intermittens*).
2. The arthropathies of tabes and dementia paralytica (*arthropathia tabetica*).
3. The syringomyelic arthropathies (*arthropathia syringomyelica*).
4. The painful joints of the psychoneurotics (*arthralgia psychoneurotica*).

THE REGULARLY INTERMITTENT JOINT EFFUSIONS (*Hydrops Articulorum Intermittens*).

This remarkable affection early described by Moore[4] has been carefully studied in this country by Kennedy,[3] Barnes,[4] Brackett and Cotton[5]; in England by Marsh,[6] in France by Féré,[7] Crepin, Rejou,[8] and Panas[9]; in Germany and Austria by Seeligmüller,[10] Pierson,[11] Kapper,[12] Linberger,[13] and especially by Schlesinger,[14] who has been able to collect fifty-five cases from the literature.

In this disease there is an acute swelling of a joint which occurs periodically. The intervals vary; usually the attacks occur every fourteenth day, but in some instances they occur every third or fourth day, every ninth or sixteenth day, or even every thirtieth day. In one case the swelling occurred at the menstrual period. The periodicity is often so regular that, as in malarial affections, the patient will be able to foretell the day when the joint will be attacked. The joint may or may not be painless. There is, as a rule, no fever, nor is there local redness or heat. The knee is the joint most frequently attacked, usually on one side only; sometimes both knees are simultaneously involved. Other joints may be the seat of the affection; even, it is asserted, the mandibular articulation and the joints of the spine.

The duration of the attacks is also variable; usually the swelling lasts only three or four days, but it may continue for a week or longer.

The disease has nothing to do with infection (pyogenic, tubercular, syphilitic, malarial or rheumatic). It is almost certainly angioneurotic in origin and is probably closely related to the angioneurotic edema which affects the skin and mucous membranes. Not infrequently an attack is accompanied by other neural manifestations, or, instead of an attack of the joint swelling, there may be an "equivalent" in the form of polyuria, profuse sweating and reddening of the face.

The diagnosis is the most important in order that the mistake of treating by surgical methods may be avoided. A surgeon, if unfamiliar with the disease, may be tempted to suspect an "irritable synovial fringe" or a loose semilunar cartilage and advise operation. Unluckily, too, the cases are sometimes mistakenly supposed to be instances of tubercular arthritis and are treated by fixation and prolonged rest.

The sudden onset, the absence of fever, the short duration of the attack and the periodic recurrence make the diagnosis, in a majority of cases, really easy. Tuberculosis is not difficult to exclude, especially if the tuberculin test be employed in doubtful cases.

The treatment of the individual attacks consists of rest, encouragement and the application of a flannel bandage. Aspiration of the joint or injections are wholly unnecessary. The attacks will often cease if proper general hygienic measures are followed. Most individuals suffering from the disease require antineurotic measures—psychotherapy, hydrotherapy, occupation-therapy and the like. Arsenic in small doses, long continued, appears to have been beneficial in some cases. Now and then a case will resist all attempts at cure; the disease has been known to persist through a large part of a lifetime. In view of what we now know of the relation of a slowed coagulation time for the blood in connection with serous effusions, it might be worth while to test the time in cases of intermittent hydrops and perhaps by the therapeutic effect of calcium lactate.

II. THE ARTHROPATHIES OF TABES AND DEMENTIA PARALYTICA (*Arthropathia Tabetica*).

Since Charcot,[15] in 1868, published his careful clinical study of the joint lesions which occur in the course of tabes many writers have dealt with the subject, and a large number of cases have been placed on record. In late years the topic has been dealt with in a number of important monographs and collective reviews. Among these the articles of Rotter,[16] Pansini[17] and Henderson[18] may be especially mentioned. Full references to the literature are to be found in these articles. Nearly 400 cases are now on record, and the analyses begin to be of value. In America Drs. S. Weir Mitchell, H. M. Thomas and others have made reports on the condition.

* Read in the Section on Practice of Medicine of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

1. Mitchell: "A New Practice in Acute and Chronic Rheumatism," Amer. Jour. Med. Sc., 1831, No. viii; "Further Cases and Observations Relative to Rheumatism," ibid., 1833, vol. xii.
2. Moore: "Periodical Inflammation of the Knee Joint," Lancet, 1864, No. 1, p. 485; "Two Cases of Periodical Inflammation of the Right Knee Joint," Med.-Chir. Trans., Lond., vol. L, p. 21-38.
3. Kennedy: "*Hydrops articulorum intermittens*," THE JOURNAL A. M. A., 1894, p. 900.
4. Barnes: Ref. Handbook, Med. Sc. (Wood's) 1895, vol. xi, No. 7, p. 484.
5. Brackett and Cotton: Boston Med. and Surg. Jour., 1901, vol. cxlv, p. 484.
6. Marsh: "Cases of Intermittent Hydrops of the Joints," Trans. Clin. Soc., Lond., 1905, vol. xxxviii, p. 147-149.
7. Féré: "Contribution a l'histoire de hydrarthroses intermittartes," Rev. neurol., Paris, 1893; also: "Notes sur quelques de l'hydrarthrose intermittent neuropathique," Rev. de chir., Paris, 1893, p. 616.
8. Rejou: "De l'hydrarthrose intermittente," Paris, 1877.
9. Panas: Communication sur l'hydrarthrose intermittente. Bull. et mem. Soc. de Chir. de Paris, 1878, vol. iv, p. 401-405.
10. Seeligmüller: "Hydrops articulorum intermittens," Deutsche med. Wochnschr., 1880, vol. vi, No. 52, p. 61.
11. Pierson: "Zur Kenntniss der Hydrops articulorum intermittens," Deutsche med. Wochschr., Berlin, 1881, vii, 169.
12. Kapper: "Zur Therapie des Hydrops articulorum intermittens," Allg. Wien med. Ztschr., 1885, vol. xxx, p. 362-382.
13. Linberger: "Ueber intermittirenden Gelenkhydrops," Beitr. z. klin. Chir., vol. xxx.
14. Schlesinger: "Die intermittirenden Gelenkschwellungen," Nothnagel's Spec. Pathol. u. Ther., Wien, 1903, p. 1-27.
15. Charcot: "Sur quelques arthropathies qui paraissant dépendre d'une lésion de cerveau ou de la moelle épinière," Arch. de Physiol. Norm et Path., Paris, 1868, No. 1, pp. 161, 379, 1 pl.
16. Rotter: "Die Arthropathien bei Tabiden," Arch. f.. klin. Chir., 1887, vol. xxxvi, p. 1-71, 2 pl.
17. Pansini: "Sull'artropatia tabetica," Naples, 1896.
18. Henderson: "Joint Affections in Tabes Dorsalis," Jour. Pathol. and Bact., Edin. and Lond., 1905, vol. x, p. 211-264.

In Charcot's original description the main clinical features of the tabetic arthropathy were pointed out—the sudden appearance of a firm, painless swelling of a joint, extending to the surrounding soft parts, occurring often independently of traumatism, and followed by rapid changes in the joint surfaces, the latter leading to dislocations or subluxations and to false positions of the bones in a very short time.

Pain, while usually absent, is sometimes present. Its rarity, however, is shown by Henderson's analysis; in his statistics the presence of pain, other than the frequently occurring tabetic pains, was noted in only 20 out of 333 cases. The joint is rarely red, though in some instances slight redness appears and lasts for a few days.

The sudden firm swelling is very characteristic. It does not pit on pressure and is quite different from an ordinary edema. It extends, too, with great rapidity, often reaching its height in a few hours, and involves structures beyond the capsule and bursæ of the joint. More rarely the swelling comes on gradually. Occasionally crepitation can be made out very similar to that met in ordinary arthritis deformans.

After the full development of the swelling, the joint may rapidly grow smaller again, the swelling often entirely disappearing within a couple of weeks. Most authors distinguish a benign and a malignant form, the latter, unfortunately, being that most frequently met. In the benign form the swelling may entirely disappear and the joint return almost to its normal state, except, perhaps, for slight crepitation. In the malignant form there is rapid loosening of the ligaments, alteration in the bones, subluxation or dislocation often following within a few days or weeks. Not infrequently free bony masses appear in or about the joint. If the knee be involved, a genu-recurvatum may rapidly be formed. Flail joints are common sequels of tabetic arthropathies.

The tabetic arthropathies may occur at any stage of development of the disease. They may even be among the premonitory symptoms, though this is unusual. The majority of the cases appear to have been observed first in the ataxic period. It was Charcot's opinion that the joint affections usually appeared in the transitional period; that is to say, just before the onset of the ataxia, and he thought that if they occurred in the ataxic period the arms were usually involved rather than the legs; that is, joints in limbs in which the disease was not so far advanced. Henderson's statistics indicate a somewhat different incidence. In a total of 246 patients analyzed by him the first arthropathy occurred in the pre-ataxic stage in 54 cases, in the transitional in 36 cases, in the ataxic in 156. It is rare to have an arthropathy appearing first in the paralytic stage.

If the joint be tapped in the stage of acute swelling, a clear yellow fluid is usually obtained; sometimes it is blood-stained. In the joints which have been incised a slightly reddened synovial membrane has been found, with some thickening of the fringes. In later stages the fringes are lengthened, have bulbous extremities, and may contain nodules of bone or cartilage, or areas of necrotic tissue.

In the milder cases the capsule of the joint and the periarticular ligaments may suffer but little, but in the severe arthropathies these fibrous structures become thinned and fuse with neighboring structures to form a general fibrous mass in which small bony or cartilaginous nodules frequently appear. An arthropathy which might have remained benign had the joint been kept at rest is often converted into a malignant arthropathy by neglect and overuse. The painless character of the affection tends to lead patients to use the joint, unless they are strictly warned against this by the medical attendant.

The changes in the bone and cartilage of the joints themselves have attracted the attention of many investigators. In the benign cases there may be no changes whatever, though it is rare that erosion of cartilage is entirely missed. Most often, and especially in the malignant cases, changes in the bones and cartilage occur very similar to those which are found in arthritis deformans; indeed, a number of pathologists class tabetic arthropathy as one form of arthritis deformans. As in arthritis deformans, atrophic and hypertrophic lesions are described, the former being most often met in the hip and shoulder. Subclavicular dislocation of the shoulder and dorsal iliac dislocation of the hip are common deformities in these cases. Sometimes the head, neck and great trochanter of the femur entirely disappear, with formation of the so-called "drum-stick femur."

Hypertrophic changes are more common in the knee and ankle. The ends of the bones taking part in the formation of the joint become enlarged and numerous osteophytes appear in and about the joint. The joint surfaces become eroded, the tibia suffering more than the femur at the knee. The tibia is often dislocated backward.

Enlargement of the lower ends of the tibia and fibula is very common when the ankle is affected by tabetic arthropathy. This is frequently referred to in the bibliography, and is very evident from the *x*-ray pictures which Dr. Baetjer has taken in the Johns Hopkins Hospital.

Almost any joint in the body may be affected, though the small joints appear to be less often involved than the large. Even the maxillary joint may become affected.

Two very interesting special types of tabetic arthropathy are occasionally met: (1) The tabetic foot (*pied tabétique* of the French) and (2) the tabetic spine.

In the tabetic foot the bones of the arch are especially affected. I mean those taking part in the formation of the intertarsal and tarsometatarsal articulations. The bones, the joint cavities, the ligaments and the adjacent soft parts may all be involved. Henderson describes and illustrates two characteristic displacements of the metatarsal bones; one lateralward, the other dorsalward. The term tabetic foot should not be applied to a tabetic arthropathy of the ankle; in the tabetic foot proper it is not the talocrural articulation which is involved.

The bony lesions in the tabetic spine resemble very closely those of other varieties of spondylitis deformans, but the sudden onset and the extensive destruction of the parts, along with the existence of other tabetic signs and symptoms help to distinguish it.

III. THE JOINT AFFECTIONS IN SYRINGOMYELIA (*Arthropathia syringomyelica*).

The joint affections in syringomyelia resemble very closely those that occur in tabes. The cases have been collected and analyzed by Sokoloff[19] and later by Graf.[20]

19. Sokoloff: "Die Erkrankungen der Gelenke bei Gliomatose des Rückenmarks (Syringomyelie)," Deutsche Ztschr. f. Chir., vol. xxiv, Festschr., C. Thiersch, Leipzig, 1892, p. 505-548.

20. Graf: "Ueber die Gelenkerkrankungen bei Syringomyelie," Beitr. z. klin. Chir., Tübingen, 1893, No. 10, p. 517-550, 1 pl.

Sokoloff had compiled 20 cases of the joint affections, including 6 in Morvan's disease. Graf added 13 more to the list. The arthropathies of syringomyelia are also well described in Schlesinger's[21] monograph. It has been estimated that about 10 per cent. of syringomyelic cases suffer from joint involvement; men are about twice as often affected by syringomyelia as are women, and of 34 cases of syringomyelic arthropathy 26 were in males and 8 in females. The average time of onset of the joint affection is the fortieth year, but it may occur in childhood. Usually the arthropathies precede the muscular atrophies and the muscular disturbances, but this is not a constant relation; occasionally the reverse is seen. The joints on one side of the body are as prone to involvement as those on the other. The joints of the upper extremities, and especially the shoulders and elbows, are most often affected (80 per cent. of the cases). Even the wrist appears to be twice as often attacked as either the hip or ankle. As we have seen, this is in marked contrast with the arthropathia tabetica, which is most often located in the joints of the lower extremities (80 per cent. of the cases). The reason for this may lie in the fact that the gliosis spinalis most frequently affects the intumescentia cervicalis, the tabetic degeneration most often attacking first the intramedullary axones of the peripheral sensory neurones which innervate the lower extremities. Trauma frequently precedes the arthropathy. The swelling is usually sudden, as in the tabetic joint lesion. Unlike the latter, the joints are not wholly painless as a rule. After a few days the swelling subsides, but some crepitation remains in the joint. In the course of time this subsidence of swelling is followed in turn by a gradual increase of swelling, now entirely painless. It may be years before this leads to marked enlargement and deformity of the joint. The patients finally apply for treatment, less on account of the disease of the joints as such than for the progressive atrophy of the limb and the corresponding loss of power.

On examination of an advanced case of syringomyelic arthropathy, the hypertrophic enlargement of the extremities of the bones entering into the formation of the joint is usually a striking feature; the capsule is thickened and often ossified in places; distinct crepitation can be elicited on movement of the joint owing to erosion of the cartilages or to changes in the synovial membranes. In other cases atrophy of bone is seen instead of hypertrophy; the whole end of a bone may have been absorbed, the passive hypermobility of the joint is extreme, the capsula articularis is thinned and expanded, and spontaneous dislocation frequently occurs. Exostoses develop in and near the joint; spontaneous fracture is not rare. The diagnosis is made certain by finding the muscular atrophy, the syringomyelic dissociation of sensation (analgesia and thermanesthesia with retention of tactile and muscle sense), or, in Morvan's type, the panaritium and mutilation of the digits. Occasionally a syringomyelic arthropathy suppurates, but this, as in the suppurative tabetic arthropathy, is an accident, due to secondary infection with pyogenic micro-organisms.

The frequent occurrence of habitual dislocation of the shoulder in syringomyelia has been emphasized by Schrader (13 cases in the literature). Scoliosis and kyphoscoliosis are also commonly met. The recent literature contains references to several rare cases in which the joints of the lower extremities have been involved. In Merton's patient, studied in Trendelenburg's clinic, the joints in both feet were affected; the exact changes in this and in a number of other cases have been studied in *x*-ray photographs.

The course of the syringomyelic arthropathy is usually longer than that of the tabetic. There are on record cases which developed very gradually, one over a period of twenty, another of thirty-five years (Sokoloff). In the gliomatous arthropathies it is rare, too, to see such large exudations as are met in tabes.

The treatment of the disease is limited to rest, orthopedic measures and the avoidance of trauma. Operative interference is rarely desirable.

Two main theories have been advanced to explain the origin of the tabetic and syringomyelic arthropathies. According to the older theory, they are directly dependent either on the disease in the spinal cord or on a disease of the peripheral nerves accompanying these maladies. Charcot and Joffroy assumed the existence of a trophic center for the joints in the anterior horns, but many facts speak against this view. The neuritic explanation seems plausible for tabes, but there is no evidence in favor of it in syringomyelia.

According to the second theory, that held by Virchow, v. Volkmann and Rotter, the relation of the arthropathies in tabes and syringomyelia is totally other than that assumed in the first theory. These authors maintain that these arthropathies are really cases of arthritis deformans; they have their rapid course and are painless, or relatively painless, on account of the analgesia, the ataxia, and the unnoticed traumatism which occurs. But (1) there is rarely any ataxia in syringomyelia or in the cases of arthropathia which occur in incipient tabes; (2) analgesia, though frequent, is not constant; (3) the joint disintegration often advances in spite of absolute rest; (4) the periarticular processes are too extensive to be thus explained (Graf), and (5) the frequent simultaneous involvement of several joints speaks against the conception that the connection between the diseases of the cord and the diseases of the joints is simply indirect (Sonnenburg). A brief but interesting review of the theories will be found in Joachimsthal's article[22] and in the article of Henderson[18] on tabetic arthropathy.

IV. THE PAINFUL JOINTS OF THE PSYCHONEUROTICS (*Arthralgia Psychoneurotica*).

Under this heading I include the arthralgias of hysteria (Brodie's joints), of traumatic neurosis, of neurasthenia and psychasthenia. Good accounts of the hysterical joint are to be found in Brodie,[23] Briquet,[24] Charcot,[25] and Binswanger.[26] In the surgical textbooks of Tillmann and Da Costa the condition is adequately recognized.

The knee is most often affected (gonalgia), the hip next (coxalgia), the shoulder frequently, the talocrural and the intertarsal joints occasionally. The cervical spine may be the seat of symptoms and the condition be

21. Schlesinger: "Die Syringomyelie," Ein Monograph, 2 Aufl., Wien, 1902.

22. Joachimsthal: "Knochen- und Gelenkveränderungen bei Nervenaffectionen," Handbuch der pathol. anat. des Nervensystems, Hrsg. von Flatau, Jacobsohn u. Minor. Berlin, 1904, p. 1397-1417.

23. Brodie: "Pathologic and Surgical Observations on Diseases of the Joints," from the 4th London edition, with the author's alterations and additions, Philadelphia, 1843.

24. Briquet: "Traite clinique et therapeutique de l'hysterie," Paris, 1859.

25. Charcot: "Lectures on Hysterical Contraction of Traumatic Origin," Med. Press and Cir., London, 1883, vol. xxxv, p. 417; 439.

26. Binswanger (O): "Die Hysterie," Wien, 1904, p. 283-293.

mistaken for cervical caries. One joint is usually affected at a time, though in rare instances two or more are concerned. Redness, heat and swelling are rarely present; pain and disturbance of function are the two prominent symptoms. Spasm (contracture) of the muscles proximal and distal to the joint frequently exists. The muscular atrophy is generally slight in amount, but in long-standing cases may be profound. The position assumed by the limb may or may not simulate that found in organic disease.

Many of the cases follow trauma of some sort (Charcot). The trauma may be followed immediately by the joint neurosis; more often there is an incubation period of "psychic meditation." In some cases no preceding physical trauma can be made out, the malady then developing after an emotional shock, after a convulsive seizure, or by imitation after seeing an organic joint affection. The arthralgia is sometimes the first symptom of the psychoneurosis; as a rule, however, the stigmata of hysteria, of psychasthenia or of neurasthenia have been recognizable, in cases carefully studied, for some time preceding the joint trouble.

The great importance of the differential diagnosis of these arthralgias from organic disease, especially from tubercular gonitis and coxitis, is obvious. The nocturnal exacerbations of the pain, which frequently occur in sleep and awaken the patient in tubercular coxitis, are absent in psychoneurotic coxalgia. On making passive or active movement of the joints in cases of joint neurosis, the patients complain of "horrible, unbearable pain:" sympathy only increases the pain, while if the attention can be diverted temporarily the movements can often be carried out without severe pain. It is often found, further, that the pain is more intense in the skin and soft parts than in the joints themselves. Careful esthesiometric tests nearly always show a distinct hyperalgesia of the skin over the joints between the attacks of pain. In hysterical coxalgia, for example, there exists frequently an area of cutaneous hyperalgesia, triangular in shape, the apex of the triangle being at the lower margin of the symphysis pubis, the base at the middle of the sacrum. When the knee, elbow or wrist are complained of, the hyperalgesia of the skin is usually cuff-like in form, the area surrounding the whole joint. During the severer neuralgiform seizures the hyperalgesia may change to a total hyperalgesia of one-half of the body. Analgesias are sometimes demonstrable in hysterical cases.

In psychoneurotic coxalgia the attitude of the lower extremity may resemble most closely that met in organic disease of the hip joint; there may be apparent shortening, abduction, lateral rotation, or, later on, adduction and medial rotation. The limping gait, accompanied by lumbodorsal pseudoscoliosis, may strikingly simulate that of organic hip disease. Some of these patients refuse after a time to make any attempts to move their joints, and lie in bed for months or even for years.

A few cases of psychoneurotic arthralgia are associated with a higher grade of muscular atrophy than is commonly seen from simple inactivity, and these may be puzzling. According to Gilles de la Tourette, the atrophy differs from that of organic disease, being more general in the extremity with the psychoneurotic joint, while with the joint of organic disease it is localized chiefly in the muscles which extend the limb.

With *x*-ray examinations and tuberculin reactions organic arthropathies are now less likely than formerly to be mistaken for joint neuroses, but there is still danger that the psychoneurotic joint will be looked on as an organic disorder. Very skilled surgeons and physicians have been deceived before now; even to-day it is the neurologist who often saves the psychoneurotic joint from the knife and saw or plaster-of-Paris fixation. In doubtful cases the deep chloroform narcosis recommended by Charcot should be resorted to for diagnostic purposes. Not only do the contractures disappear when the patient is anesthetized, but a careful physical examination of the joint can be made and the physician can assure himself of objective negativity. In addition the phenomena observable during recovery from anesthesia are helpful in differential diagnosis. It is the sensitiveness of the skin which returns first in the psychoneurotic joint, the tenderness and pain in the deeper parts, elicited by tapping the trochanter or the heel, coming back later. It is only after the patient has rather fully recovered from the anesthesia, say in the course of from twenty to thirty minutes, that the deep pain and contractures return. It is just the opposite with the joints of organic disease.

The treatment of the psychoneurotic arthralgias should be mainly directed toward the general psychoneurosis which underlies the symptom. Nothing is more harmful than a predominantly local therapy. Isolation and psychotherapy are the sovereign remedies in these cases. After a thorough examination has been made and the absence of organic disease has been determined, the patient should be told that the joint trouble is nervous in origin, and that, in the physician's opinion, there is no reason why it should not speedily get well. After a few days of complete separation from the family and friends, and when "medical obedience" has been fairly well established (frequently easily obtainable by encouragement and by keeping the patient for a short time in bed on a diet consisting exclusively of milk), the patient's intellect and will are to be appealed to by "persuasion."[27] Passive movements of the joints are to be begun and gradually increased; hydrotherapy and electrotherapy may be used as adjuvants. After a few days the patient may be induced voluntarily to move the joints a little, and very soon normal motility may be regained. The patient, through occupation therapy and will-gymnastics, should be taught gradually to improve in self-control.

It is surprising to see the "wonderful" transformations of which psychoneurotics are capable when simple measures of the kind mentioned are employed. The length of time the symptom has persisted need not make one skeptical of recovery. The miracles of St. Anne de Beauprès and of Lourdes, of osteopathy and of Christian Science amaze the laity. Just as marvelous cures, but more lasting ones, attend the efforts of the physician who knows how to recognize quickly and to treat rationally the psychoneurotic manifestations.

27. Barker: "Some Experiences with the Simpler Methods of Psychotherapy and Re-education," Trans. Assoc. Amer. Phys., 1906.

Sterilization of Sewage Filter Effluent.—At the meeting of the Society of American Bacteriologists, held in New York, Dec. 27-28, 1906, E. B. Phelps, of the sanitary research laboratory of the Massachusetts Institute of Technology, reported the failure of the sprinkling or contract method to remove the pathogenic forms of bacteria. He stated that he has found that the addition of bleaching powder in the proportion of 5 parts chlorin to 1,000,000 gallons of sewage is a thoroughly reliable method. Mr. Phelps has found copper sulphate to be fairly effective in the proportion of 2 parts of the sulphate to 1,000,000 gallons of sewage.

THE TREATMENT OF NON-TUBERCULOUS CHRONIC ARTHRITIS.*

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The past few years have marked a greater advance in the success attending the treatment of chronic arthritis than of almost any other disease. This advance, we believe, is due largely to the many important studies made as to the etiology and pathology which have resulted in the differentiation of various types, thus rendering possible more rational therapeutic indications. In the brief time allotted us we are obliged to omit entirely any account of these investigations or discussion of their bearing on treatment, and shall confine ourselves to a general outline of the treatment which, in our hands, has proved most successful.

The treatment of chronic arthritis consists essentially, first, in the employment of methods influencing general metabolism, and second, local treatment of the affected joints. The first are almost universally applicable to all cases, while the second varies somewhat with the particular type. For purposes of presentation, therefore, the discussion will be grouped under two heads, viz.: (1) General treatment applicable to all cases; and, (2), Local treatment according to the type of joint affection.

No generally accepted or entirely satisfactory classification has yet been suggested, but in this paper the non-tuberculous joint diseases will be grouped according to the scheme of Goldthwait[1] as follows: 1. Villous arthritis. 2. Infectious arthritis. 3. Atrophic arthritis. 4. Hypertrophic arthritis. 5. Chronic gout (not considered in this paper).

This division of chronic arthritis into the above types is purely for purposes of study and is well recognized as imperfect and probably transitory. On the one hand our increasing familiarity with the types demands a more satisfactory grouping than the old nomenclature offers, while on the other, the present state of our knowledge warrants no more elaborate scheme. This paper does not attempt to discuss thoroughly this classification, yet a brief definition of the terms is essential to the understanding of the authors' views on treatment.

1. Villous arthritis is not an entity. Although it often occurs following trauma, or is even found to exist without discoverable etiology, and without evidence of any other complicating joint condition, it nevertheless may accompany the so-called infectious, atrophic, or hypertrophic types as a part of the symptom complex

2. Under infectious arthritis are included that great number of joint affections, chronic in nature, often more periarticular than articular, and believed to have their cause in a constant vitiation of the blood stream from some focus of infection such as the tonsil, alimentary canal, or genitourinary tract, or in the presence of micro-organisms in the joint. The articular cartilages are in this group less likely to show marked changes than in the two following.

3. By atrophic arthritis is meant the type in which, associated with much debility and general constitutional disturbance, there is found an atrophy of the joint structures, showing in the examination of fresh joint material and in the skiagraph as decalcification of bone with erosions of bone and cartilage. This group includes many of the cases usually classed as rheumatoid arthritis.

4. In the hypertrophic type there is little if any debility or evident constitutional disturbance and, as opposed to the atrophic type, an hypertrophy of cartilage and bone. While this process is active and in the early stages the shadows cast by the bones in the skiagraph may be denser than normal. Osteophytes are seen along the lines of the ligaments and at the articular edges. Pathologic examination of fresh specimens confirms this clinical and *x*-ray picture. The so-called osteo-arthritic types are included here.

I. GENERAL TREATMENT FOR ALL CASES.

A. TREATMENT OF SUCH CONDITION AS PRIMARILY OR SECONDARILY AFFECTS THE CONDITION OF THE JOINTS.

1. *Disturbances of the General Health.*—Of the first importance is the most careful attention to the treatment of these disturbances. We should always bear in mind that, as a rule, the treatment of the patient is of as much, if not greater, importance than the affected joint. Any abnormal condition, such as anemia, malnutrition, nervous debility, emaciation, obesity, etc., should be corrected as promptly as possible, and in a majority of instances such a correction leads to a very definite amelioration of the symptoms. Very commonly the patient suffering from chronic arthritis is emaciated and anemic, and for this type the "fat cure," together with tonic treatment, is best suited. Likewise the plethoric, obese patient is frequently relieved by a carefully administered "reduction cure." The associated mental depression resulting from the constant pain and incapacity for work also merits the closest attention, for a cheerful, hopeful disposition is a most efficient tonic. Perhaps the best plan is to be found in a régime of open air treatment in a mild, sunny climate similar to that employed with the consumptive. Attention is necessary to the regulation of the various eliminative functions of the body.

2. *Suppurative Processes, as in the Middle Ear, Tonsil, Alveolar Process, Fallopian Tubes, and Urogenital Tract.*—These may act as infective foci which keep the process in the joints active and a most thorough search for such should always be made, and if found, radically treated. We have seen most striking relief of joint symptoms follow the removal of chronically inflamed tonsils or the cure of pyorrhea alveolaris when all forms of local and general management had failed.

3. *Correction of Deformity by Operative Measures and Apparatus.*—If these cases can be observed from the start prevention of deformity is usually possible and more satisfactory than its correction after the joint changes have taken place. Very much, however, can be done in the later stages to relieve deformities, especially of the weight-bearing mechanism. These deformities constantly tending to increase, finally induce a bedridden or wheel-chair life. Although, judged from an anatomic standard, the surgical results may not be brilliant, yet from a functional point of view they are often most satisfactory to the patient. They include osteotomies, tenotomies, and forcible manipulations, to be followed by retentive apparatus. The methods above mentioned will be discussed later.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

1. Goldthwait: "Differential Diagnosis and Treatment of the So-Called Rheumatoid Diseases," Boston Med. and Surg. Jour., Nov. 17, 1904, cli, No. 20, pp. 529 to 534.

4. *Organic Disturbances.*—These disturbances, as of the circulation or kidneys, although much less frequently exerting an influence on the disease process in the joints, are, nevertheless, of moment in exceptional instances. Certainly in all cases any disturbance of function in the vital organs must exert a deleterious influence on the general health of the patient and demands attention if we are to treat the patient in the most rational manner.

B. DIET.

All that is important regarding diet can be summed up in the statement that for practically all cases it should be selected purely with reference to the general nutrition and not according to any theory of its direct influence on the arthritic process. That food is best which affords the best nutrition and does not lead to fermentation in the gastrointestinal tract. The poorly nourished and emaciated need a full nutritious diet, comprising an abundance of fat and carbohydrates, and the obese should be subject to such restriction as will reduce the adiposity without diminishing the strength. The ingestion of large amounts of water has a favorable influence through its aid in the elimination of waste and toxic products, and to this fact is probably due the efficiency of certain mineral waters rather than to any specific properties which they possess by virtue of their particular alkaline qualities.[2]

C. PHYSICAL THERAPY.

Under this term we include hydrotherapy, hyperemia, counter irritants, massage, and active and passive motion. To the susbtitution of these for drugs is due much of our success to-day in the treatment of arthritis. The favorable action of all these methods, though obviously differing somewhat in the nature and extent of the effects produced, can best be explained by a common influence on the nutrition of the joint through the circulatory changes induced.

1. *Hyperemia.*—Hyperemia holds the place of chief importance among the methods of local treatment of the joints, and is, with very few exceptions, applicable in one form or another to the treatment of all forms of chronic arthritis. A great variety of methods inducing local congestion have been employed, including hot water, baking, hot sand, Fango baths, Bier congestive method, "Saugeapparat" (Bier), sweating, counter irritation, and many others. Varying effects are undoubtedly produced, yet the essential condition in each is the varying degree of hyperemia. Bier and others divided hyperemia into two groups, active or arterial, and passive or venous; the former resulting chiefly from local application of heat in some form or counter irritation, the second principally as a consequence of some interference with the venous blood flow. The above mentioned author believes that in cases of the chronic forms of arthritis the best results are obtained by active hyperemia, and with this view our own experience entirely agrees. In acute inflammatory conditions of the joints we have repeatedly found arterial hyperemia to fail to relieve the pain or actually increase it, while in as many instances of the chronic form the application of the "Bier method" of venous hyperemia has failed to relieve the pain as effectively as baking (arterial hyperemia). As to the exact method of application of the hot air, only a few general rules need be given, as the degree of heat registered by the thermometer, its mode of application, etc., must vary greatly with the special form of apparatus used. There is little choice in the particular form of baker so long as it makes possible the confining of the hot air to the affected joint and is so constructed as to admit of easy regulation of the temperature. The most convenient covering for the joint we have found to be a small thin towel, as it absorbs the perspiration sufficiently, prevents the possibility of direct burning, and does not necessitate the extreme degree of heat in the chamber which must be produced when the joint is covered with a thick layer of cotton and a bandage. Within certain limits the degree of hyperemia varies directly with the degree of heat in the oven, but we have observed no advantage in the highest temperature which the patient is able to bear. In general, the temperature should be gradually raised until the patient feels it approaching the limit of tolerance, maintained for fifteen to twenty-five minutes, and then allowed to fall gradually. Depending on the severity of the symptoms, this treatment should be applied from once or twice weekly to once or twice daily, and continued for weeks or months. The results obtained in this manner are: 1, A lessening of pain; 2, bactericidal action; 3, an increase in absorption; 4, resolving of proliferated tissues; 5, a regenerative influence on the tissues (Bier).

2. *Massage.*—In nearly all cases except in the hypertrophic variety massage is an important factor in the management and should usually be combined with carefully regulated active and passive motion. The favorable action of massage is seen in 1, an increase in the nutrition of the joint; 2, absorption in the joint effusion; 3, diminution of the edema; 4, a loosening of adhesions; 5, stimulation of trophic nerves; and, 6, relief of muscle spasm. It is undoubtedly of the greatest value in those cases accompanied by effusion and is best applied immediately following the period of hyperemia when the relief from pain is most marked. Gentle kneading, squeezing, and stroking centripetally with careful manipulation are the methods to be employed.

3. *Hydrotherapeutic Measures.*—Applied both locally and generally, these play an important part in the treatment of all forms, but unfortunately their use is largely restricted to special institutions equipped with the necessary apparatus.

D. REST.

Rest is essential in all acute stages, though to be advised with extreme care, as in many forms, especially the infectious, very marked muscular atrophy and firm adhesions may form even within a few weeks. This will be considered under the various types discussed below. Immobilization in itself may cause inflammation resulting in erosion of cartilage, adhesions, and binding together of the periarticular tissues, as shown by animal experiments made by several investigators.

E. DRESS.

In certain instances dress is a more important factor than is commonly recognized. Thin woolen underclothing, preventing the rapid evaporation of the perspiration and affording a protection against the sudden changes of temperature, diminishes the pain and probably to some extent the tendency to acute exacerbations.

2. The exhaustive work of Mr. McCrudden on "Uric Acid" (Paul B. Hoeber, Publisher, 69 East 59th Street, New York City) disposes finally of the theory that this substance is the sole, or even an important cause of the so-called rheumatic diseases. The more perfect technic of modern physiologic chemistry would seem to show that in some instances diametrically opposite conclusions would have been drawn by Haig from his experiments had they been performed with the accuracy of the present methods.

F. CLIMATE.

A dry, relatively warm climate is occasionally of help, particularly in the atrophic type. Many patients find great relief from a winter's sojourn in a climate like upper Egypt or Arizona. As in tuberculosis, the climate best suited to arthritic patients is that which, by virtue of its dryness, equability, and abundance of sunshine, admits of the maximum number of hours in the open air.

G. DRUGS.

The salicylate preparations, which are so efficacious in the acute forms of arthritis, possess slight if any value in the treatment of the chronic forms except in the acute exacerbations, in which they occasionally afford some relief from pain. Their depressing effects on the heart, their irritation of the gastrointestinal tract, and their destructive action on the red blood corpuscles make it inadvisable to employ them even in the latter cases. It is but rarely impossible to relieve the pain by local applications. Tonics, especially arsenic and iron in some form, are to be administered in practically all cases and for long periods. Many authors testify to the usefulness of potassium iodid and creosote, but we have never been able to observe any striking results follow their use. Various salines, especially sodium phosphate, are very largely employed in these conditions, but we do not know of any definite indications for their use, based on their physiologic action except the cathartic action and consequent tendency to diminish intestinal putrefaction. Admittting the fact that there are no specific drugs, the indications for their use are clearly those given by the complicating conditions.

II. SPECIAL TREATMENT ACCORDING TO TYPE.

Supplementing the above described general régime certain special rules are applicable to individual types, but here the application is a very indefinite one, as each case must be judged according to the special symptoms and their severity. In the more severe stages the condition at times demands surgical treatment, and very frequently the application of orthopedic methods. These will be mentioned in the discussion of the local measures adopted in the management of the special types.

A. CHRONIC VILLOUS ARTHRITIS.

Since the commonest cause of this condition is some underlying condition producing an abnormality in the function of the joint, the correction of such sources of strain or weakness is of prime importance. The examples are flat-foot, obesity, and certain strained position necessitated by occupation. Hyperemia, though of value, if carefully and persistently used, is much less effective than in other types with more severe inflammation. Supporting bandages and apparatus which restrict motion more often afford relief.

After a failure of the methods above indicated and when the villi still persist in spite of partial or complete immobilization of the joint, operative measures are indicated. It is certainly rational to remove the cause of the irritation and the results obtained fully warrant this procedure. The villi are partly fibrous, partly fatty, and covered with synovia. They hang as fringes into the joint, often interfering with free motion, and in many cases acting as foreign bodies. The pinching of one of these fringes or tabs between the opposing articular surfaces gives rise to sudden pain and a train of symptoms closely simulating those caused by a loose semilunar cartilage.

The exact technic of the operation need not concern us here. The joints are best opened by linear incisions, usually on both sides of the patella, and carried through the capsule. The villi are seen hanging like stalactites or stalagmites into the joint cavity, most often arising from a much enlarged infrapatella pad. These are removed with scissors. The hemorrhage is ordinarily not extreme and is easily controlled by temporary packing. The capsule and fascia are now approximated with interrupted suture of catgut or silk, and the skin incisions closed without drainage, unless the bleeding is excessive. Passive motion is begun on the seventh day subsequent to operation and a restoration to approximately previous functional ability can be expected at the end of two or three weeks.

Several joints which we have seen opened later for one cause or another have shown no further villous formation occurring from the scar tissue formed at the seat of previous removals.

B. INFECTIOUS ARTHRITIS.

Notwithstanding the fact that in this form the initial symptoms may be more severe than in any other, with proper treatment the prognosis is usually the most favorable. The use of active hyperemia once or twice daily, followed by careful massage and hydrotherapy applied locally, will often produce very striking improvement or a complete cure in the condition. Rest by fixation, although absolutely essential during the period of acute inflammation, must not be employed for too long a period, as adhesions and atrophy take place with astonishing rapidity and can only be avoided by massage and manipulation of the joint. The frequent accompanying hydrops is best relieved by fixation and massage. We feel that in this type emphasis should be laid on early passive and active motion, since without this troublesome adhesions are sure to follow. In those joints which have been allowed to become stiff and when the *x*-ray shows no change in the articular surfaces we believe *brisement forcé* under complete anesthesia is the best initial procedure. Following this manipulation only temporary immobilization, if any, can be safely employed. It should be left in a different position from that assumed before the operation in order that the previously adherent surfaces may not oppose each other, and therefore again become glued together. Passive and active motion are indicated within twelve to twenty-four hours, under an anesthetic if necessary. These exercises, which are made possible by the Zander machines, seem to us almost ideal for this after treatment, and in our hands have given most satisfactory results. Tenotomies for obstinate contractures should be performed. Before *brisement forcé* is employed the manipulator should be sure that the patella is not adherent, since forcible flexion under these circumstances will often detach the tendon from the tibial tubercle before the patella adhesions give way.

C. ATROPHIC ARTHRITIS.

This form sometimes obstinately resists all treatment. Its persistently progressive character, together with the many joints involved, demands the most careful attention to every therapeutic detail. As in Class 2 the tendencies to atrophy and early fibrous ankylosis are sufficient indications for early massage with active and passive motion. A warm, dry climate has unquestion-

ably given relief to many when all other means of relief have failed. Although operative measures offer less brilliant results than in the cases of simple villous arthritis and those of the infectious type, they are by no means to be neglected. The knees and feet present the most favorable opportunity for correcting the existing deformities and for obtaining a more perfect weight-bearing mechanism. This is of value not alone because of the greater freedom it affords the patient, but also because thereby a reasonable amount of exercise can be taken, the effect of which on the general condition is obviously important.

In the feet, the position assumed is almost always one of valgus and eversion, the weight-bearing line falling much too far toward the inner side of the foot and ankle. The consequent strain is not alone on the foot, but also on the knee and hip, as in the common cases of so-called "flat-foot." Forcible manipulation under an anesthetic and retention in the corrected position by plaster bandages or splints is the method we have followed. The retentive apparatus should be worn constantly for two or three weeks, and then changed for a supporting but less efficient foot plate or brace to be worn in the shoes, and for a long period the retentive apparatus should be applied at night. Several manipulations may be necessary. The Achilles tendon is not infrequently contracted and should be fearlessly lengthened or divided so that the foot may attain at least right angle dorsal flexion.

With flexed knees the same principles hold, though greater care is obviously necessary in reducing the more acute ones. The patella should always first be freed, else the patella tendon will sometimes be torn from the tubercle before the adhesions give way. Too forcible manipulation has led to rupture of the popliteal vessels and nerves, with subsequent gangrene. The contracted posterior capsule offers great resistance, but generally yields to repeated manipulations at perhaps one or two week intervals. The hamstring tendons should be divided by open incisions whenever they represent resisting factors at the time of operation or cause obstinate pain by spasms and contracture while the limb is in retentive apparatus. Plaster is the best first dressing until the tendency to acute recurrence of the deformity is past. The apparatus which has been found most useful for after treatment is the "caliper splint." This consists of a posterior thigh band from which two quarter-inch wire rods descend. Their lower ends are bent at a right angle into two horizontal pieces, each an inch or so long, which fit into a circular iron socket in the heel of the shoe. A strap about the ankles keeps these from slipping from their sockets. A quadrilateral knee-cap with buckle and strap at each corner is placed over the knee and strapped round the rods on each side and buckled into itself at each corner. This may serve as an ambulatory apparatus, the knee-cap taking the strain off the joint. The splint may be worn a part, or all, of the day, the knee being from time to time brought into the most complete tolerable extension by gradually tightening the straps. The above methods serve to illustrate the principle of corrective operative measures and retentive apparatus.

D. HYPERTROPHIC ARTHRITIS.

Local treatment, on the whole, yields less favorable results than in the other types because of mechanical ankylosis due to bony proliferation. This obviously can not be entirely relieved by measures affecting the nutrition of the joint. Furthermore, passive motion, unless employed with the greatest care, may do considerable harm to the soft tissues. Mechanical support, however, by relieving the danger of mechanical irritation, may greatly relieve the pain and allay the inflammation and favorably influence the absorption of the thickened cartilage. The main principle of treatment in this type is rest. The fixation need not necessarily be complete to afford relief. Adhesive plaster strapping, flannel bandages, etc., often furnish sufficient support, but we feel that complete fixation in plaster or leather splints is the best method of treatment to the more sensitive joints of this type. By reducing the swelling and local irritation of the soft parts, return to painless function is favored. The pointed spicules seem to round off and some of the hypertrophy of the cartilage to disappear.

When it can be definitely ascertained that one or more bony overgrowths are the chief obstacle to greater mobility these osteophytes may be removed and at least temporary relief of pain and greater power of motion gained. The patient should definitely understand, however, that this has no effect on the general tendency to proliferation and gives no assurance that these overgrowths will not recur. Occasionally the onset or the exacerbations may be quite acute, seemingly coincident with the rapid development of a bony spur. At these times baking offers the most speedy relief.

SUMMARY.

In conclusion, it is well to remark, that we can no longer consider this group of diseases as hopelessly incurable. The success of modern therapy offers the greatest encouragement. Briefly stated, the régime of treatment applicable to all types is improvement of the general health.

In cases of simple villous arthritis, after a fair trial of conservative methods, radical operation is advised. In the infectious cases early motion and as little fixation as possible is indicated. In the atrophic, a judicious combination of fixation and motion affords the greatest relief, and in the hypertrophic, partial or complete fixation with as little motion as possible most favorably arrests the process.

The final results will depend largely on two factors: First, the stage of the disease at which a diagnosis is made, and second, the skill and persistence with which a régime of treatment is carried out. If treatment is delayed until marked pathologic alterations have taken place in the joint tissues and the general health has become much impaired the prognosis is of necessity much less hopeful. In the early stages, we may hope by patient, persistent, careful application of the above methods to arrest the process in a majority of cases and to effect a complete cure in a considerable number. In the more advanced forms we can usually relieve, sometimes arrest, but practically never bring about a complete cure.

DISCUSSION

ON PAPERS BY DRS. CONNER, WITHERSPOON, HERRICK, BARKER, LOCKE AND OSGOOD.

DR. JOEL E. GOLDTHWAIT, Boston, said that one could not but contrast the articles in the symposium with those read a few years ago. If he remembered rightly not once in the papers had the "grandfathers" been mentioned; nor had uric acid been mentioned but once and then only as a feature of the disease and not as a cause. It seemed very encouraging that medical men, generally, are working intelligently and honestly to unravel the many features of these diseases about which so much uncertainty exists. Meetings of this sort he thought

must stimulate all. It is most important that every individual should have a thorough examination; it should not be taken for granted that the patient has "rheumatism," but he should be examined thoroughly, with every available method, in order to determine all the possible features of the disease. He emphasized the importance of trying to get at the pathology, a knowledge of which must underlie all treatment. After the examination has been made as carefully and perfectly as possible then some plan of treatment can be adopted irrespective of old theories, so long as the treatment is along the lines indicated by the pathology. Whatever terms one may use to indicate the individual case or type of cases under treatment is entirely a matter of no importance, provided the pathologic conditions which underlie the features in a given case are understood. If it is an atrophic case, a progressive atrophy, one will not wish to deplete the patient any more than one will deplete a patient with some other wasting, progressive disease. The pathology should be the guide in the treatment of disease. It means reconstruction, and until more is known of the etiology the treatment must be along these lines. Whatever drugs be used, so long as they are reconstructive, they are the proper ones to use. If the hypertrophic condition exists and if, after examination, one finds joint limitations due to mechanical presence of nodes, they should be removed, if possible, so as to allow the joint to have freer motion. This is merely a mechanical problem. In infectious cases one should remember that he is dealing with an infection, whether it is a direct infection of the joint or a sequela of some other infection. With this fact in view the line of treatment is obvious.

Dr. Goldthwait said that it is his privilege, through the kindness of the staffs of two hospitals in Boston, to see a great many patients with various forms of rheumatism so-called, both the acute and chronic forms. What impresses him is that apparently in these joint conditions the same features are present as in other infections. So far as he could tell a given organism may produce an acute disease, or the same organism under certain conditions, in which the resistance is lessened, or the organism more virulent, may go on to a more serious type of inflammation, the lesions lasting for a longer period of time. Therefore, the more he sees of these cases, the more and more difficult does it become to classify them properly, except that they are all infectious. His plea was that they all do their best and contribute even a mite to the knowledge of a large subject which represents the cause of more of the helpless cripples than any other disease which confronts them. He believes hydrops intermittens to be more common than appreciated. Variations in the frequency of the attacks are very great. As to their being infectious, it seems to him that they are not yet in a position to make as broad a statement as that; many suggestions show that they are dealing with infection, similar to a malarial infection, for instance, which developed once in so often. Investigation along this line is very suggestive. In one case then under treatment the joint was opened and a diplococcus obtained. The intermittent character in that joint (knee) was controlled, while the character in the other knee was not. Drugs of the greatest benefit are those of the antiseptic character.

With regard to the so-called hysterical joints he thought that the greater our knowledge the fewer would be such cases. A great many cases which he used to call functional or hysterical it had been his privilege to correct with greater knowledge of the joint conditions.

DR. GEORGE W. MCCASKEY, Fort Wayne, Ind., said that in dealing with cases of acute articular rheumatism, so-called, one can assume that he is dealing with an infection. The point that bears directly on the problem of the etiology of rheumatism is that in infectious disease a chemical poison is the really active agent. It is perfectly well known that the bodies of bacteria do not of themselves produce disease. Acute articular rheumatism he believed to be some particular poison to which there is a special susceptibility on the part of the joint structures, heart, etc. It is possible that the same poison may be developed by different, but related, organisms. But just what its nature is, whether an alkaloid or acid, or something else, he did not know. It may be produced by a diplococcus, a streptococcus, or some other organism which secretes (or from the dead bodies of which there can be extracted) a poison which has a special reaction on the structures involved.

In regard to Dr. Witherspoon's reference to the general infection of the system from the gonococcic organism, he said that he recently had seen a case which illustrated the dangers of any operative manipulations on a patient during the time of the active local infections. In this case a divulsion of an old stricture was performed during an attack of an acute gonorrhea. Within three or four days acute heart symptoms developed and two weeks later the patient was in an advanced stage of gonorrheal endocarditis, which proved rapidly fatal. There is great danger, he believed, in operative procedures on the urethra under such conditions.

DR. JAMES J. WALSH, New York, referred to the various groups of diseases that had been in existence during the past years, such as the measles-scarlet-fever group at the beginning of the nineteenth century, then the German measles group in the twentieth century and the throwing out of each group various diseases and he thought that the so-called rheumatism should go the same way. We should get rid of the term rheumatism. Acute arthritis may be traumatic or infectious. It may be caused by traumatism, as an injury, or by a strain put on the joint. When in Paris he saw 160 cases of mumps in soldiers and in 11 of them a mump arthritis developed.

Dr. Walsh referred to another form which had been encountered in New York. This started with a sore throat lasting three or four days; then in a day or two the joint became sore and tender, with usually no swelling; in eight or ten days the patients would be better. These were cases of mild infection, and seemed to be due to a diplococcus. It was a mild form of acute arthritis. Then there were the severer forms which ran about six weeks, more commonly met with years ago than now. Ordinarily, forty years ago such patients stayed in the hospital 18 days; now they remained in the hospital 16½ days under the salicylate treatment; that was all the salicylates had done for us. These cases should not be called rheumatism at all, but arthritis. There are cases of subacute arthritis with the recurrences of marks in the joints, a secondary infection. If there are marks about the joints they are not the result of an acute articular rheumatism, so-called; they are due to some secondary infection like gonorrhea.

In the chronic form of rheumatism fall the arthritis deformans group. The term "chronic rheumatism" has no business in the nomenclature at all. Most neuroses, musculoses, flat feet, writer's cramp, telegraph cramp, etc., are all called rheumatism when the pains are around the joints, which is wrong.

DR. JOHN ROGERS, New York, said that in the paper on gonorrheal rheumatism he heard no mention made of the treatment which he has found to be reasonable and of value and which gives satisfactory results. Six months ago Dr. Torrey and himself published an article in THE JOURNAL A. M. A. on a specific bactericidal serum for use in gonorrheal rheumatism. Dr. Rogers had the clinical side of the observations. They had a total of 45 cases and of these 64 per cent. of the total acute and chronic cases were cured within from one to four weeks. It made much difference in what stage of the disease the antigonococcal serum was administered. In the acute stage 83 per cent were cured; in the subacute cases, running three, four or five weeks, 74 per cent. were cured; in the chronic cases, which had lasted six months and over, out of 13 cases only 4 were cured. In three cases there was no improvement. Dr. Rogers recommends this treatment as a reasonably simple treatment and of great efficacy in acute cases. Personally he has not tried it in acute gonorrheal epididymitis, but others have found it very efficacious. It is of no value for gonorrheal urethritis or gonorrheal ophthalmia. It seems to be of considerable value in gonorrheal septicemia. The serum can be obtained by application at the Cornell Medical College, New York City.

DR. WOODS HUTCHINSON, Arrowhead Springs, Cal., said he was glad that the word rheumatism was gradually being left out, the name so often not being creditable; all sorts of disturbances, especially of the motor mechanism, had been dumped into that pile. Its chief value to many resides in its giving a reason for the administering of the salicylates. He said that not only have we confused our classification as

already pointed out, but under the term rheumatism conditions are often included in which the joints are not involved at all.

Last winter he had under his care from 60 to 70 cases of chronic rheumatism, so-called, and out of this number more than 60 per cent. of them could be clearly traced to acute infectious disorders, such as influenza, tonsillitis, pneumonia, typhoid fever, etc. In many cases the chief involvement was not in the joints at all, but in the muscles about the joint and in the nerves supplying that joint. A large number of patients were essentially neurotic in type and showed a peculiar susceptibility to the influence of diet and drugs.

DR. GOLDTHWAIT'S reference to red meats was very interesting to him, as most patients that come to the springs are on a special diet, avoid red meat, and still have rheumatism. They seem to do better when on a free proteid diet. Most of them are peculiarly susceptible to a small group of articles of food, such as strawberries, grape fruit, oranges, asparagus, spinach, shell fish, coffee, beef steak, cheese, etc. In many there was actually a neuritis present as attested by wasting of particular muscles, nerve trunks swollen and tender on pressure, areas of anesthesia, numbness and tingling. In short, chronic rheumatism was beginning to present to his eye the picture of a toxic neuritis, with or without articular complications. As to acute rheumatism he would not venture to say. The evidences seemed to point toward the probability that many cases of the acute articular variety were at bottom toxic disturbances of the nervous system, with joint involvements on the order of angioneurotic edema. For instance, the pain and swelling of a joint usually begin on one aspect only of that joint, corresponding to a particular nerve twig, and often are confined entirely to that aspect. This area is later found anesthetic. The pain and swelling develop, subside and shift to another joint with such astonishing rapidity and leave no adhesions or any changes visible to the naked eye. The skin is glossy and pink as in other neuritides. The pain on movement is often not in the joint but in the muscles flexing or extending. The attack comes on with spasmodic contractions and limbs are cramped in one position. Some years ago Osler pointed out that salicylates relieve the pain in these cases the same as any other analgesic would.

DR. CLARENCE E. SKINNER, New Haven, called attention to the paper on the treatment of these conditions, which he read at the Atlantic City meeting two years ago, in which he stated his belief that the body dry-hot air treatment two or three times a week, and static or high frequency electricity every day, constitute the sheet anchors of hope in the management of arthritis deformans. In that paper he reported 50 cases thus treated. He has been using the same treatment ever since and, inasmuch as none of these remedial measures had been mentioned in the present Symposium, he desired to say that the results obtained during the last two years had served to confirm the belief expressed in this paper.

DR. LEWIS A. CONNER, New York City, said that there seems to be little doubt that in many of the milder cases of acute rheumatism the joint manifestations are due to a toxin rather than the presence of the organisms themselves. Similar effects of such chemical poisons are to be seen in the joint inflammations, which sometimes follow the use of antitoxic sera. But whether in rheumatism the toxin is produced only by one specific organism or may result from the action of various micrococci is the question.

DR. JOHN A. WITHERSPOON, Nashville, Tenn., said that he considered serum therapy as yet in the embryonic state and that we are not warranted in recommending it now. He agreed with Dr. Goldthwait that the pathology should be first recognized if one is to have success in the treatment. He also was glad to hear that the red meats had not been mentioned in the symposium.

DR. JAMES B. HERRICK, Chicago, emphasized the importance of the treatment already referred to in the gonorrheal cases, that was, aspiration of the fluid in the earlier stages. This not only lessens pain and hastens the absorption of exudate, but at times prevents the extension of the inflammation to the periarticular structures.

DR. LEWELLYS F. BARKER, Baltimore, said he was glad to hear the suggestion made that intermittent hydrops is possibly of infectious origin. With regard to the serum treatment of gonorrheal rheumatism he said that more should be known regarding the exact nature of this serum before it is generally advocated, because if Pfeiffer's views regarding endotoxins are true, there are possibilities of its doing harm. The endotoxins would be set free from the bacteria killed by the bacteriolytic serum. The gonococcic serum appears to have a bacteriolytic action. He said that Pfeiffer might be wrong in his opinion, but his views should be borne in mind when experimenting with the treatment.

Dr. Woods Hutchinson's hypothesis was interesting, but if there is a neuritis present, then they have to deal with a neuritis with surprisingly few other symptoms of the disease; analgesia, tactile anesthesia, muscular paralysis, etc., are absent.

PHYSIOLOGIC EFFECTS OF ALCOHOL ON THE HUMAN SYSTEM.*

WINFIELD S. HALL, M.D.
CHICAGO.

THE RELATION OF ALCOHOL TO LIVING PROTOPLASM.

(*a*) *The Source of Alcohol.*—Ethyl alcohol is one of the normal products of metabolism of the yeast plant. Most species of white mold form alcohol under abnormal conditions. The conditions which lead to a formation of alcohol by the white mold, lead also to a marked increase in the formation of alcohol by yeast.

The yeast plant is a fungus and in common with other fungi reproduces by means of spores. The yeast plant possesses another method of reproduction, gemmation or budding. This method is used when all conditions are favorable to vegetative growth.

The fungi belong to the lowest sub-kingdom of plants, and are distinguished morphologically by absence of root, stem and leaf; and physiologically by the absence of chlorophyl—the green coloring matter of leaves and stems.

According to the plan of nature, only those organisms which possess chlorophyl are able to build up complex food substances from simple inorganic compounds. Thus we find the green-leafed cereal grasses building up cellulose, starch, sugar, oil and proteids from such inert compounds as CO_2, H_2O, and the mineral salts of the soil. The energy which is made latent in this wonderful constructive process is derived from the sunlight by the chlorophyl.

Organisms not possessing chlorophyl are unable to utilize the inert organic materials of their environment. They are dependent on the chlorophyl-bearing plants for their food. Animals live on the cellulose, starch, oil and proteid elaborated by green plants for their own use. Fungi subsist in a similar, though perhaps somewhat humbler way—the toadstool and mushroom appropriating the decaying vegetable matter of field and forest, the yeast plant consuming the sugar of decaying fruits, while molds and bacteria are found wherever vegetable or animal matter is in process of degenerative change. In fact, the presence of these non-chlorophyl-bearing organisms promotes decay.

(*b*) *The Metabolism of the Yeast Plant.*—From the above we see that the fungus possesses many points in common with animals. Its life energies are liberated from the highly organized foods which it first consumes, then decomposes.

The food of the yeast plant must contain nitrogenous

* Read in the Section on Hygiene and Sanitary Science at the Fifty-seventh Annual Session of the American Medical Association, Boston, 1906.

matter, otherwise there will be a wasting of the cell substance, as shown by Pasteur.[1] Mayer[2] has shown that this nitrogenous matter may be in the form of such soluble and diffusible proteids as peptone, proteoses, syntonin or yeast extract. A portion of the nitrogenous matter may also be in the form of ammonium nitrate, tartrate or oxalate.

Besides the nitrogenous food, there must be carbonaceous food, which is represented by sugar. Then there must be water and salts; the latter must represent iron, potassium and magnesium in phosphates and in some sulphur combination (not sulphate—Mayer).

As these foods are all soluble, they may be directly absorbed by the yeast cells without the intervention of any digestive processes. They are absorbed through the cellulose wall of the yeast cells, and become a part of the cell protoplasm.

How the cell accomplishes the building up of the new material out of food stuffs is not known. How it finally causes disintegration of portions of its own living substance is also unknown.

Something is known, however, of the processes by which the living cell-plasm extracts energy from the foodstuffs of the cytolymph. A study of the phenomena of fermentation has revealed the existence of soluble ferments or enzymes, which are the catabolic agents of the living substance.

Enzymes may be either secreted by the cell or retained within the cell; in the first case they perform an extracellular fermentation. In the latter case, an intracellular fermentation (Green[3]).

Buchner[4] has shown that the yeast plant possesses an enzyme—*zymase*—which has the power, when extracted from the cell, of causing dextrose to break up into ethyl alcohol and carbon dioxid. No one has expressed a doubt that this enzyme is the agent through which the living protoplasm of the yeast cell liberates the energy of the sugar. The zymase is not secreted by the yeast cell, but does its work as an intracellular ferment.

Very early in the study of alcoholic fermentation it was discovered that when the yeast cell has an ample supply of oxygen there is a rapid growth and reproduction of the cells with a much decreased production of alcohol and a quantity of carbon dioxid out of proportion to the amount of alcohol (Buchner u. Rapp[5]). On the other hand, with a deficiency of free oxygen there is a great decrease in cell proliferation, while the energy for the life processes of the cell is liberated from the sugar through the action of the enzyme; the reaction being something as follows: $C_6H_{12}O_6$ (+ latent energy) $= 2CO_2 + 2C_2H_5OH$ (+ kinetic energy), which was first suggested by Gay-Lussac,[6] but is now accepted for practical purposes by Oppenheimer.[7]

Every living organism absorbs certain foodstuffs, assimilates these and either directly or indirectly causes their catabolism. The catabolism of complex substances results in the formation of a number of substances of simpler composition, which are passed out of the cell or organism.

Among the substances which leave the yeast plant are: CO_2 H_2O, glycerin, succinic acid, ethyl alcohol, and a nitrogenous substance. (Oppenheimer[7]).

But the matter which passes out of living cells may be divided into two categories: (1) Matter which is elaborated within the cells and passes out into the surrounding medium where it performs a function or serves a purpose advantageous to the cell or to the organism of which the cell may be a part; (2) matter which has been more or less completely catabolized and, being useless to the cell, is passed out in order that its accumulation within the cell may not clog the vital processes or otherwise injure the cell.

As examples of the first category one thinks at once of the enzymes of the digestive glands, elaborated from substances within the cell plasma, passed out into the lumen of the alimentary canal, where they induce in the contents of the canal chemical changes which are highly advantageous to the organism as a whole. Then there is mucin formed and passed out to lubricate and to protect the delicate surface of the alimentary, respiratory and other membranes; also oil prepared in the sebaceous glands and thrown out on the skin to keep it soft and non-absorbent.

As an example of the second category one may name carbon dioxid, a product of the oxidation of the carbon of the cell protoplasm. In the case of the higher animals urea and uric acid—products of the catabolism of the nitrogenous matter—are good examples of the second group.

The line of division between these two classes of substances is a very clearly marked one. Johannes Müller first made this division, and it has been generally accepted. The substances belonging to the first category are called secretions and those of the second excretions. The term excretion is used in this sense by physiologists generally.[8]

Accepting the use of the word excretion as it appears in the literature of nutrition, we can formulate the following definition which would be acceptable to any modern pathologist: An excretion is any substance (1) which is the product of catabolism of food; (2) from which the organism has extracted the maximum energy possible for it; (3) which would injure the cells that formed it if retained in them; (4) and which is expelled by the cells immediately after its formation.

All the substances mentioned above as leaving the yeast plant fulfill these conditions and must, therefore, be classified as excretions. In no case could they be looked on as secretions in the sense in which that term is generally used. No one has ever contended that the yeast plant makes any use of these substances after they are thrown out of the body. The fact is that the yeast cell throws them out because it can get no further energy out of them. They are thus typical excretions.

(*c*) *Biologic Significance of Excretions in General and the Influence of Excretions on Living Matter.*—The living organism throws out excretions for two reasons: (1) It can make no further use of them and (2) if retained the substance injures the organism. A clini-

1. Pasteur: Cited by Schurtzenberger in "Fermentation," New York, 1893.
2. Mayer: Cited by Oppenheimer, "Die Fermente u. ihre Wirkungen," Leipzig, 1900.
3. Green: "The Soluble Ferments and Fermentation," Cambridge, England, 1900, page 13.
4. Buchner: "Alcoholische Gährung ohne Heferzellen," Bed. d. d. Ch. Ges. Berlin, 1897-98-99.
5. Buchner u. Rapp.: Zeitsch. f. Biol., 1899, No. 37, p. 82.
6. Gay-Lussac: Ann. de Chemie, No. 95, p. 311, 1815.
7. Oppenheimer: "Die Fermente u. ihre Wirkungen," Leipzig, 1900.
8. Howells: "Amer. Text-book of Physiol.," 1900, vol. I, p. 213. Schaefer: "Text-book of Physiol.," 1898, vol. I, p. 635. Voit: In Herrmann's Handbook of Physiol., vol. VI, p. 13. Landois and Sterling: "Human Physiol.," p. 491. Verworn: "Allgemiene Physiologie," 1895, p. 171. Mills: "Animal Physiol.," 1889, p. 412. Waller: "Human Physiol.," 1896, p. 22. McKendrick: "Special Physiol.," p. 378. Stewart: "Manual of Physiol.," 1897, p. 330. Dalton: "Human Physiol.," p. 329. Coleman: In Kirk's "Handbook of Physiol." (15th Amer. Edit.), 1899, p. 291. Lecharfler and Bellamy: Compt. rendu., vol. I, xxix, p. 949. See Bersch, Gährungs Chemie, vol. I, chap. VI, p. 135, et seq. See Sims Woodhead.

cal fact long known and frequently illustrated is that retained urea and uric acid cause profound disturbance of the nervous system, followed by convulsions and death. It is a biologic principle universally recognized that the decomposition products of any organism are injurious to that organism (Vaughan[9]). Vaughan expresses this law in the following words: "They (the cells of the body as well as bacteria) are injured when the products of their own activity accumulate about them."

The excreta of bacteria are all classed as ptomains by Vaughan,[10] and he subdivides these into two classes: (1) Toxic ptomains, formed in the presence of little oxygen (scarcity of O); (2) non-toxic ptomains, formed in the presence of abundant free oxygen. Quoting further from Vaughan,[9] "It is true, without exception, so far as we know, that the excretions of all living things, plants and animals, contain substances which are poisonous to the organisms which excrete them. These poisons originate in the metabolic changes by which the complex organic molecule is split up into simpler compounds."

We must now inquire whether or not alcohol is one of the constituents of the yeast plant excretion which is injurious to that organism. The latest authority on fermentation, Carl Oppenheimer,[11] says: "The question as to how far the cleavage products affect the ferment injuriously can be answered very easily in the case of alcoholic fermentation, since in this case one of the cleavage products, namely, alcohol, is, in a certain degree of concentration, a protoplasmic poison, and injures the yeast and decreases the fermentation. When the alcohol has reached a strength of 12 per cent., the growth of most species of yeast is much decreased, while with 14 per cent. all activity stops.

White mold in general and some species of yeast are much more sensitive to alcohol, from 1 to 4 per cent. being sufficient to stop completely all further growth as well as fermentation.

Not only will the toxic excretion of any living organism poison the organism which produces it, but it will have a toxic action on any organism of a higher rank. Thus the excretion of a mammal might serve as food for some of the lower invertebrates and certainly for fungi and bacteria; while the excreta of the yeast fungus (alcohol) serves as pabulum for the bacterium of acetic acid fermentation. The toxic excretion of the bacteria (toxic ptomains), however, are poisonous to the bacteria and to the yeast fungus and higher organisms, while the toxic excretion of the yeast (alcohol) is toxic not only to the yeast, but also to all animals.

The biology of ethyl alcohol may be thus summed up: (1) Ethyl alcohol is the excretion of a fungus; (2) excretions which are toxic to the organism which excretes them are also toxic to all higher organisms; (3) alcohol is, from its inherent nature, therefore, toxic to all animal protoplasm.[12]

Having set forth the relation of alcohol to living tissue; having shown that because it is an excretion of a fungus, it must, in conformity to the universal biologic law, be toxic to all higher organisms, the effect of alcohol on the human system may be much more clearly comprehended.

9. Vaughan: "Ptomaines, Leucomains, Toxins and Antitoxins," 1896, vol. ix, pp. 549, 550.
10. Refer also to Aitken, "Animal Alkaloids," 1889, p. 14, et seq.
11. Oppenheimer, loc. cit., S. 226.
12. Experiment has shown that it is also toxic to the protoplasm of all higher plants.

THE PHYSIOLOGIC EFFECT OF ALCOHOL ON THE ANIMAL BODY.

(*a*) *The Effect on Nutrition.*—The first question that arises in this connection is an old one: Is alcohol a food?

Ethyl alcohol possesses several characteristics in common with the carbonaceous foods, e. g., (1) it is composed of C, H and O; (2) it is readily oxidized in the liver, yielding CO_2 and H_2O, which are excreted; (3) it yields heat incident to its oxidation, and this heat naturally augments the body income of heat; (4) ingestion of ethyl alcohol leads to a decrease in the catabolism of carbonaceous foods and may even "spare" proteins.

In this connection, one must not lose sight of the following facts: (1) All vegetable toxins and alkaloids are composed of the same kind of chemical elements as enter into foodstuffs, viz., C, H, O and N.

(2) Toxins and alkaloidal poisons in general are oxidized in the liver, through the agency of oxidases, whose function is to oxidize and thus to make harmless substances which would act as protoplasmic poisons on all cells with which they come in contact. When moderate amounts of such toxins are taken the defenses of the system are sufficient to reduce them to a harmless condition and no immediate injury results. If larger quantities are ingested the full drug effect (narcotic in the case of alcohol) is immediately experienced, the oxidases of the system being unable to defend it against a large dose.

(3) All oxidation yields heat, whether it is a normal catabolism or a protective oxidation. That the heat from the oxidation of alcohol is not a normal catabolism for the purpose of heat liberation is evident from the fact that, notwithstanding the liberation of heat through oxidation of alcohol, the temperature of the body falls, because of increased loss of heat from the surface. This increased loss is due to dilatation of peripheral vessels.

(4) Decreased catabolism of carbonaceous or nitrogenous foods following ingestion of a narcotic is a universal fact depending on the drug effect and giving to the oxidized narcotic no significance as a food. It may be said without reservation that ethyl alcohol is not a food in the scientific significance of the word.

DEMONSTRATED FACTS.

We note so many antitheses between alcohol and food that we are inclined to try the deadly parallel on the two substances.

FOOD.	ALCOHOL.
1. A certain quantity will produce a certain effect at first, and the same quantity will always produce the same effect in the healthy body.	1. A certain quantity will produce a certain effect at first, but it requires more and more to produce the same effect when the drug is used habitually.
2. The habitual use of food never induces an uncontrollable desire for it, in ever increasing amounts.	2. When used habitually it is likely to induce an uncontrollable desire for more, in ever increasing amounts.
3. After its habitual use a sudden total abstinence never causes any derangement of the central nervous system.	3. After its habitual use a sudden total abstinence is likely to cause a serious derangement of the central nervous system.
4. Foods are oxidized slowly in the body.	4. Alcohol is oxidized rapidly in the body.
5. Foods, being useful, are stored in the body.	5. Alcohol, not being useful, is not stored in the body.
6. Foods are the products of constructive activity of protoplasm in the presence of abundant oxygen.	6. Alcohol is a product of decomposition of food in the presence of a scarcity of oxygen.
7. Foods (except meats) are formed in nature for nourishment of living organisms and are, therefore, inherently wholesome.	7. Alcohol is formed in nature only as an excretion. It is, therefore, in common with all excretions, inherently poisonous.

8. The regular ingestion of food is beneficial to the healthy body, but may be deleterious to the sick.	8. The regular ingestion of alcohol is deleterious to the healthy body, but may be beneficial to the sick (through its drug action).
9. The use of foods is followed by no reaction.	9. The use of alcohol, in common with narcotics in general, is followed by a reaction.
10. The use of food is followed by an increased activity of the muscle cells and brain cells.	10. The use of alcohol is followed by a decrease in the activity of the muscle cells and brain cells.
11. The use of food is followed by an increase in the excretion of CO_2.	11. The use of alcohol is followed by a decrease in the excretion of CO_2.
12. The use of food may be followed by accumulation of fat, notwithstanding increased activity.	12. The use of alcohol is usually followed by an accumulation of fat through decreased activity.
13. The use of food is followed by a rise in body temperature.	13. The use of alcohol may be followed by a fall in body temperature.
14. The use of food strengthens and steadies the muscles.	14. The use of alcohol weakens and unsteadies the muscles.
15. The use of food makes the brain more active and accurate.	15. The use of alcohol makes the brain less active and accurate.

ALCOHOL AND THE DISABILITIES OF SCHOOL CHILDREN.*

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For some years I have been making investigations into the intellectual, moral, and physical conditions of school children. These investigations found their original impulse when, as a member of a suburban board of education, I and a former prominent public educator of Brooklyn, were engaged in a study of the best methods of dealing with refractory and stupid children. Subsequently when in the homes of the poor, as medical visitor for a metropolitan hospital, and more recently when making investigations into the elemental and contributing factors of mental deficiency for various medical societies. I have been impressed with the alarming and the widespread disabilities of school children and their close relation to alcohol.

In several schools examined less than 20 per cent. and in some classes less than 2 per cent. of the children were found absolutely normal in mind and body. In an examination of the records of 63,000 school children, representing 150 schools and 1,749 classes, we found 58 per cent. below standard in their studies; 25 per cent. of them very deficient.

The alarming lack of self-control, the impulsive restlessness, with frequent explosions of passion, and the manifestations of criminal tendencies evidenced by the rising generation, are matters for serious thought. A few weeks ago a boy seven years of age, when refused a simple request, in a fit of anger, drew a revolver from a desk drawer, and shot and killed his mother. Within a brief period in New York City, six boys, aged seven, nine, ten, eleven, twelve and fourteen years respectively, were convicted of burglary, three of them having developed a shrewd plot to rob sixty houses. Two boys fifteen and seventeen years old were found guilty of assault and highway robbery. Three boys, ten, fourteen and sixteen years of age were convicted of murder. In each of these instances alcohol bore a conspicuous part in the family history. Hardly a day passes without its record of juvenile crimes. Few of these criminals are haled to court, and still fewer juvenile crimes are reported in the public print.

The prevalence of organic diseases among school children in our cities is a forecast of a greatly reduced physical standard. Of 10,000 children in city schools, 35 per cent. have diseases of the heart; 20 per cent. have spinal defects; 27 per cent. are tuberculous; 60 per cent. are anemic; and 80 per cent. suffer from some neurosis. Of 500 children in country schools, 5 per cent. have diseases of the heart; 8 per cent. are tuberculous; 12 per cent. are anemic; and 15 per cent. suffer from some neurosis. So common are organic and functional diseases among school children in New York City that should the facts already secured hold good over the entire city and those afflicted be excluded from attendance, two-thirds of our schools would be compelled to close for lack of pupils. The effects of these physical conditions on life and capability of the future citizen is far-reaching.

The etiologic factors conspicious in the disabilities of school children are environment, personal habit and heredity. Of those suffering from organic diseases, 30 per cent. live in an unhealthy and squalid environment, in an atmosphere of drunkenness and immorality—during the day beaten and cursed and at night permitted to sleep on the floor. Thousands fill premature graves and other thousands with enfeebled constitutions labor through life under the curse inflicted on them by parents ignorant of the laws of life.

The condition of the children of the "submerged tenth" is pitiable. Few normal children are to be found among them. Undoubtedly much of their disease is born in filth and nurtured by vice, but no inconsiderable proportion finds its genesis in the bottle. These children have little to curb the animal passions, but every opportunity for the expansion of depraved natures. The drink environment is such a menace to growing girls that virtue is maintained with difficulty. An extensive study warrants the belief that 50 per cent. are likely candidates for lives of prostitution. Within eight weeks, girls seven, eight and eleven years of age have been outraged. There are certain houses known to the authorities which appear to make a specialty of this line of business.

Why are these things allowed? Are there not charity organizations, children's aid societies, and boards of health to supplement an elaborate and costly police department? Yes: but the conditions which we would correct are so intimately related to the legalized liquor traffic that any move to protect the child is met with a countermove to protect the income of the political grafter and to throw a halo of sanctity about the denizens of the saloon. Dangers to our girls grow less as the protecting agencies grow stronger.

COMPARISON OF CITY AND COUNTRY SCHOOLS.

The city, with its strain and rush, its mad struggle for gain, its turbid currents of crime and poverty, augment the burdens of life. True, there are multitudinous avenues for advancement, but on the other hand, there are unbounded opportunities for the operation of retrograde forces; hence the child of the city lacks the virility and sturdiness of the country child, is more prone to disease, more subject to degeneracy, and more deficient. Of 51,000 children in city schools, 46 per cent. are deficient. Of 12,000 in country schools, 22 per cent. are deficient.

Agencies which contribute strength to the body and moral fiber to the character are for the time overshadowed by a pall of disease and moral corruption well nigh past belief. When the saloons crowd into a neigh-

* Read in the Section on Hygiene and Sanitary Science at the Fifty-seventh Annual Session of the American Medical Association, Boston, 1906.

borhood, there is a corresponding physical and moral decline among the children. Either the saloons are attracted thither by the presence of disease, vice and crime; or disease, vice and crime result from the influence of the saloon.

Drinking, smoking, debilitating diseases and various immoralities are less likely to afflict the country child, freed from an alcohol environment, flushed with the bouyancy of country air, and the invigorating influence of healthful sports.

PERSONAL HABITS.

Dividing the children into two classes, (a) representing those in good circumstances, (b) representing those in poor circumstances, we note the following: (a) In this class 30 per cent. of the boys smoke; 6 per cent. do regular work after school. (b) In this class 80 per cent. of the boys smoke; 25 per cent. of the boys and 47 per cent. of the girls work after school hours. The girls receive from thirty to forty cents a week for minding the baby of some neighbor; the boys receive from forty to fifty cents a week for running errands and delivering parcels for groceries, dairies, bakeries, drug stores, dry-good stores and butchers. Some of these lads from ten to fourteen years of age begin work at four or five in the morning, attend school during school hours, and resume work in the afternoon, continuing at their labor until nine or ten at night. Hence, in addition to attending school five hours, they perform a day's work of ten hours. The average amount of rest secured by these lads must be very small. An investigation into the records of a half dozen boys revealed the fact that they had only from three to four hours' rest in the twenty-four, and their daily labor was such as would try the endurance of an ordinary man. These boys do not have the luxury of a bed. They know nothing of ordinary home comforts. When the drinking and carousing cease for the night, like neglected household animals, these boys curl up on the floor and go to sleep.

What wonder if such children grow up out of harmony with law, seek pleasure in devious moral ways, or abandon themselves to lives of crime?

HEREDITY.

Regardless of environment, there are certain forces inherent in the constitution which unfold characteristics of the progenitor with unerring fidelity. Talents for certain departments of activity may thus descend from parent to child. Degenerations in nerve structure and tendencies to evil are also transmitted. An alcoholic environment accentuates evil proclivities and offers opportunity for the unfolding of physical weakness and moral perversion.

Alcohol by destroying the integrity of nerve structures launches hereditary influences and implants tendencies which a good environment may not hold in check. Those forms of physical and moral disorder that stand in close relation to the nervous organization, are among the first to impress themselves on the descendant.

DRINKING HABIT AMONG CHILDREN: HOW CULTIVATED.

From early childhood many children of foreigners are taught to drink beer or wine with their meals. Some drink because of association with drinkers. Others are led to drink through the inducement offered to children at the free lunch counter and in the play-rooms connected with certain saloons. Those in the fourth class have inherited a susceptible nervous system which on the first taste of some spirit is aroused to a passionate fondness. Two litle girls, four and six years of age, had the desire for drink aroused by a medicinal dose of whiskey and for months greadily drank iced whiskey which an indulgent mother provided in response to their strenuous appeals. A child four years old in another wealthy family found the passion for drink awakened at the sideboard, and so bitter were her cries for claret that the combined efforts of mother and physician were necessary to keep an indulgent father from acceding to the child's demands. Similar cases can be duplicated in other homes.

Extent of Drinking Habit Among Children.—Dividing the children into two classes, (a) prosperous; (b) poor, we have the following:

(a) Cases reported, 34,000; abstainers, 73 per cent.; drinkers of beer, 23 per cent.; drinkers of spirits, including wines, 4 per cent.; drinkers of beer and spirits, 12 per cent.

(b) Cases reported, 6,879; abstainers, 50 per cent.; drinkers of beer, 43 per cent.; drinkers of spirits, including wines, 7 per cent.; drinkers of beer and spirits, 40 per cent.

In class (b) 36 per cent. of the Americans, and 50 per cent. of the foreigners (children of foreign parents), drink. Ninety per cent. of the drinking Americans have foreign-born grandparents and great-grandparents.

Scientific instruction in the laws of health and the effects of alcohol and other narcotics has resulted in a very perceptible increase in the number of abstainers and improvement in the hygiene of the home. Some teachers report 20 per cent. less drinking among their pupils now than five years ago.

A vast immigration of inferior peoples, attracted by our great material prosperity and the hope of political liberty, bringing with them their vices as well as their virtues, augmenting our drinking classes, furnishing additional soil from which to propagate criminals, thereby increasing our burdens and responsibilities, renders more imperative the necessity for those movements which will alleviate and enlighten.

Relation of the Drinking Habit to Mental Deficiency.—Beer-drinking children are notoriously sluggish in their mental operations, while spirit drinkers gravitate into habits which seriously impair the higher intellectual properties and cloud the judgment.

When the drink habit is linked with an hereditary alcoholic taint, dullness is perceptibly increased. From 15 to 25 per cent. of drinkers, free from hereditary alcoholic taint are dullards. From 53 per cent. to 77 per cent. of the descendants of a drinking ancestry are dullards. From 4 per cent. to 10 per cent. of the descendants of a total abstinence ancestry are dullards.

DRINKING HABITS OF PARENTS.

Dividing the pupils into two classes, (a) prosperous; (b) poor, we have the following:

(a) In this class, 32 per cent. have drinking parents; 68 per cent. have abstaining parents. (b) In this class, 85 per cent. have drinking parents; 15 per cent. have abstaining parents. (a) Of 12,919 dullards, 9,689 had drinking parents. (b) Of 3,195 dullards, 2,715 had drinking parents.

Proximate and Ultimate Effects of Alcohol on Offspring.—Dipsomania sacrifices the central nervous system and the subject transmits to his descendants tendencies to the severest forms of psychic degeneration and organic disease, and each succeeding generation finds a

lessened power of resistance to the vasoparalytic and direct toxic effects of alcohol.

One hundred and two children in twenty-five families of heavy drinking parents show the following: Seven had tuberculosis, 8 had diseases of the heart, 31 had functional diseases of the nervous system, 41 were drinkers, 6 were degenerates and 4 were idiots. Only 5 of the entire number were normal.

In moderate drinkers alcohol produces a modification of function in the highly organized nervous elements. The degeneration is neither so radical nor extensive as in the heavy drinkers, and the defects are often overlooked or concealed until the third or fourth generation, when severe psychic or organic infirmities are recognized, the so-called "misfortunes," "unaccountable afflictions" and "visitations of Providence."

Tracing ten families of total abstaining parents, we note the following: First generation, 34 children, of whom 11 per cent. suffered from organic or functional diseases; second generation, 38 children, of whom 26 per cent. suffered from organic and functional diseases; third generation, 58 children, of whom 7 per cent. suffered from organic and functional diseases.

Ten families of moderate-drinking parents show the following: First generation, 47 children, of whom 59 per cent. suffered from organic and functional diseases; second generation, 90 children, of whom 62 per cent. suffered from organic and functional diseases; third generation, 82 children, of whom 95 per cent. suffered from organic or functional diseases.

The neuropathic constitution which is so characteristic of the age in large measure arises from an hereditary basis; is extremely susceptible to disease, and succumbs to the slightest injurious influence. The psychopathic degenerative factor becomes more potent with each transmission, and induces the most serious pathologic lesions.

The alcohol habit superadded to the strenuous demands of modern life puts on each succeeding generation an increased strain. Constitutions impaired by habit or undermined by disease are bequeathed to the children. Through this cumulative transgression, disastrous consequences must result.

CONCLUSIONS.

First, when money goes for drink, poverty with its attendant evils prevails, and the burdens of childhood are increased.

Second, alcoholic environment is unfavorable to the production of the best school work.

Third, alcohol, by producing a train of psychic and organic degenerations in the offspring, debases the morals and lowers the sum total of human happiness.

Fourth, alcohol, by laying the foundations of a diseased and criminal citizenship, threatens the stability of our government.

Fifth, to reduce the burdens and dangers of childhood and to improve the manufacture of future citizens, we must continue, in the largest measure, scientific instruction in the effects of alcohol and in the essentials of health; increase the number of our public gardens, playgrounds and improved tenements. But these should be supplemented by measures which will not only lessen the effects of alcohol and the other deteriorating agencies, but also purify or remove the sources from which degeneracy springs.

ALCOHOL AS A FACTOR IN THE CAUSATION OF PULMONARY CONSUMPTION.*

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I am not one of those who believe that the world would be better off if alcohol had never been discovered. Yet there is no gainsaying the fact that directly and indirectly it is the cause of a great deal of misery and suffering. Its prominence as a factor in producing pulmonary consumption is certain; any one who watches the dissolution of families sees the frequency of alcoholism in the forbearer of consumptive sufferers. One of the saddest experiences in a large dispensary service is the almost daily application of young consumptives, of both sexes, for help, whose family history is absolutely free from the trend of inherited phthisis, but who, on inquiry, tell you with a blush of innocence on their faces, that their father or their mother, perhaps both, or some other near relatives, were accustomed to the inordinate use of alcohol.

In the Clinic for the Home Treatment of Consumption, which we recently started in Philadelphia, of the first twenty-eight consumptive male patients, 58 per cent. were, or had been, alcohol tipplers. One of the most remarkable demonstrations of the close affiliation between alcoholism and phthisis, and one which speaks more eloquently than many similar cases that could be related, is the following case, contributed by Dr. T. D. Crothers:[1]

> G. came from England in 1798 and settled in Connecticut. He was a harnessmaker, a beer-drinker, and after middle life drank rum to excess until he died at the age of 61. His wife was healthy and lived to the age of 80. Eight sons grew up and married. Six of them died of consumption under 45. One was killed by accident and the other died from the excessive use of spirits. Two daughters grew up and were married; one died of consumption and the other in childbirth. The daughter left four children; two were inebriates and the two others were eccentric and died of consumption. Of the children of the eight sons, only ten grew up to manhood. Four of these drank to excess and died. Three of the remaining six died of consumption and two others were nervous invalids until death in middle life. The last one, a physician of eminence, became an inebriate. He is the only surviving member of all this family, the male members of which were farmers, tradesmen and men of more than average vigor in appearance. They married women (so far as can be ascertained) without any hereditary tendency to consumption or inebriety.

In a very interesting paper[2] on "Alcoholism and Degeneration," Professor G. von Bunge discusses the influence of alcohol, in the first place, on the capacity of mothers to suckle their infants. Thus in 422 cases, in which both mothers and daughters were capable of suckling their children, it was found that 98.7 per cent. of the daughters, 98.9 per cent. of the mothers, and 90.4 per cent. of the fathers were abstemious or moderate drinkers; and 1.3 per cent. of the daughters, 1.1 per cent. of the mothers, and 9.5 per cent. of the fathers were immoderate and excessive drinkers. On the other hand, 281 cases, in which the mothers were capable and the daughters were incapable of nursing their infants, it was found that 94.8 per cent. of the daughters, 97.2 per cent. of the mothers, and 22.2 per cent. of the fathers, were abstemious or moderate drinkers; and 5.3 per cent. of the daughters, 2.9 per cent. of the mothers, and 77.9

* Read in the Section on Hygiene and Sanitary Science at the Fifty-seventh Annual Session of the American Medical Association, Boston, 1906.

1. Quart. Jour. of Inebriety, Oct., 1888, p. 390.
2. Virchow's Archiv., vol. clxxv, p. 185.

per cent. of the fathers were immoderate or excessive drinkers. By comparing the amount of alcohol consumed by the father, in the two groups, its influence in producing incapacity in the daughters to suckle their young, is quite obvious. For in the first group in which both daughters and mothers were "capables," the fathers were abstemious or moderate drinkers in 90.4 per cent. of the cases; while in the second group in which the daughters were "incapables," the fathers drank immoderately and excessively in 77.9 per cent. of the cases.

In the second place, Professor von Bunge investigated the influence of alcohol as a cause of consumption and of nervous diseases and psychoses in the same groups of cases. Thus in the first group of 422 cases, in which the fathers, mothers and daughters were on the whole, abstemious, and in which both mothers and daughters were "capables," consumption prevailed as follows: fathers, 3.3 per cent., mothers, 2.8 per cent., daughters, 1.6 per cent., and sisters and brothers of daughters, 8.9 per cent. In the same group, nervous diseases and psychoses prevailed as follows: fathers, 0.5 per cent., mothers, 1.7 per cent., daughters, 1.6 per cent., sisters and brothers of daughters, 3.0 per cent.

In the second group of 281 cases in which the fathers used alcohol to excess in 77.9 per cent. of the same, and in which the mothers were "capables" and the daughters "incapables," consumption prevailed as follows: fathers, 7.7 per cent., mothers, 5.5. per cent., daughters, 7.0 per cent., and sisters and brothers of daughters, 21.3 per cent. In the same group, nervous diseases and psychoses prevailed among fathers, 3.4 per cent., mothers, 5.5. per cent., daughters, 10.7 per cent., sisters and brothers of daughters, 9.3 per cent.

In a third group of 435 cases in which the fathers, mothers and daughters used alcohol to a greater extent than in the first and second groups, and in which both mothers and daughters were "incapables," consumption prevailed as follows: among fathers, 16.2 per cent., mothers, 18.2 per cent., daughters, 16.5 per cent., and sisters and brothers of daughters, 27.8 per cent. In the same group nervous diseases and psychoses prevailed as follows: fathers, 12.6 per cent., mothers, 18.5 per cent., daughters, 25.9 per cent., and sisters and brothers of daughters, 18.6 per cent.

The last three groups do not, however, represent the real pernicious power of alcohol in producing consumption and nervous diseases in the offspring, because in a certain number of instances the fathers themselves were sufferers from these diseases and hence Professor von Bunge constructed another group in which these defects are eliminated. Thus in 318 cases in which the fathers were abstemious or moderate in the use of alcohol, consumption among the offspring prevailed in 19.4 per cent., and nervous diseases and psychoses in 10.5 per cent.; while in 127 cases in which the fathers used alcohol to excess, consumption flourished to the extent of 38.1 per cent., and nervous diseases and psychoses to the extent of 31.0 per cent., actually showing that the children of alcoholic fathers are 100 per cent. more liable to consumption, and 300 per cent. more liable to nervous diseases and psychoses than those coming from more abstemious fathers.

From what has been said I think it may be taken for granted that alcoholism and consumption are allied to each other as cause and effect, and that the latter is frequently the indirect product of the pernicious influence of alcohol on the nervous system. That alcohol destroys the integrity of the nervous system is certain. Dr. James Jackson, of Boston, and Dr. Wilks, of England, were, I believe, the first to point out this phase of disease, and they called it alcoholic paralysis. It is now known as alcoholic neuritis. In its early stages it is characterized by numbness, tingling, hyperesthesia at first, and later anesthesia of the extremities, paralysis of motion, loss of knee jerk, quickened pulse, shortness of breath and pulmonary embarrassment. The brain and spinal cord remain comparatively normal, while the principal changes occur in the peripheral nerves.

If we compare the three last groups with each other it will be found that consumption predominates in round numbers from 200 to 400 per cent. in the second group, and from 300 to 1,000 per cent. in the third group, over that of the first group, which represents the normal prevalence of consumption; while nervous diseases and psychoses prevail from 300 to 600 per cent. in group two, and from 300 to 1,500 per cent. in group three over those in group one.

It being established, then, that alcohol destroys the integrity of the nerve fibers, it does not require a reckless flight of fancy to perceive how, by operating on the same tissues, it may bring about that peculiar destruction of lung substance, known as pulmonary consumption. Degeneration of a nerve implies degeneration of the organ which it supplies. Thus degeneration of the sciatic nerve is followed by impaired sensation and motion in the muscles and other tissues of the leg and a condition which is almost constantly present in chronic alcoholism, and degeneration of the pneumogastric nerves, which is frequently present in alcoholic neuritis, is just as naturally followed by disease of the lungs, heart, stomach and of all other organs supplied by them.

ALCOHOL IN ITS RELATION TO DEGENERACY.*

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Alcohol has been repeatedly charged with being the factor in degeneracy. Statistics of the first half of the present century seem to justify the conclusion that it is apparently the most potent factor, yet these statistics, as a rule, confound coincidence and cause, or effect and cause, or the vicious circles thereby resulting, to a remarkable degree. There are but few races in which alcohol has not been used and abused. The American Indians[1] had tizwein, chica and pulque long ere Columbus; the Tartars and Russians have bouza, kvas and kumyss; the South Sea Islanders have ava and toddy (from the cocoanut); the Tunisians have laymi. The vast majority of the races of mankind have used alcoholic beverages. Each was called by a local name and not by a loan word, a most demonstrable evidence of local origin.

Even the social insects (bees and ants) at times indulge in fruit ferments. The claim, therefore, that alcohol is the product of high civilization, hence of recent origin, and peculiarly destructive, is untenable. That excess in alcohol frequently occurs in degenerative stocks is, however, undeniable. But, as Krafft-Ebing, Kiernan, Spitzka and others have shown, intolerance of alcohol is an expression of degeneracy. The person in-

* Read in the Section on Hygiene and Sanitary Science at the Fifty-seventh Annual Session of the American Medical Association, Boston, 1906.

1. Johnson: "Chemistry of Common Life," vol. I, p. 239.

tolerant of alcohol becomes either a total abstainer because of a personal idiosyncrasy (like that which forbids certain people to eat shell-fish lest nettle-rash occur), or because of parsimony, or for both reasons combined. Such total abstainers leave degenerate offspring, in which degeneracy assumes the type of excess in alcohol as well as even lower phases. The race tests of the deteriorating influence of alcohol are practically valueless, nor are statistics concerning alcoholism in the ancestry of degenerates of much more use. The enormous amount of idiocy, for example, in the Scandinavian countries, charged by Huss, Langdon Down and others to alcoholism in the parents, has been, by most recent researches, cut down by Roof to less than 7 per cent. Insane hospital statistics vary to a like degree. Bad faith, however, is out of the question in these statistics. Lack of analytic skill and that dangerous, unscientific, canting philanthropic tendency which rebels at statistics unfavorable to preconceived sociologic theories explain these discrepancies.

The ignoring of all but the alcoholic factor produces also great elements of error. Kiernan[2] cites twenty-three cases in which degenerate stocks were charged to alcoholic parentage, but which on analysis proved to be due to a degenerative factor in the parents, of which alcoholism was merely an expression. Nearly all the offspring born after inebriety were prematurely born defective, epileptic, hysteric, insane, idiots or criminals. Some few were healthy, apart from their intolerance of alcohol. In eighteen cases both father and mother were alcoholics. The fathers in four of these cases had been temperate, industrious and affectionate ere being sunstruck. Following this came periods of irritability, excessive drinking and spendthriftiness. The mothers had remained for some years after the fathers' breakdown free from the use of alcohol, but were nervously exhausted from the strain. One became depressed during pregnancy, was given gin for the depression and the habit persisted after the delivery. In the three other cases painful menses developed during the nervous exhaustion. The popular prescription for these, gin, was given, with the result of producing inebriety. In ten cases skull injury to the father had like results on both mother and father. In two cases the mother became a victim of painful menstruation after a railroad accident; gin drinking, to relieve this, followed and became a habit. The father's nervous system broke down under the strain and both became inebriates. In two other cases nervous exhaustion from typhoid and typhus fever produced the same outcome—inebriety on the part of the father and mother. In the remaining cases the inebriety was an expression of nerve exhaustion after various protracted infections. The alcoholism in these cases was clearly an expression of the factors of race deterioration producing degeneracy, and not its cause.

The influence of alcohol must first be studied, therefore, on the individual to determine its value and method of action as a cause of race deterioration. Careful medical researches have shown that alcohol produces a nervous state, closely resembling that induced by the contagions and infections, often accompanied with mental disturbance (delirium and acute types of insanity). The acute nervous state to which the term alcoholism was applied by Magnus Huss has all the essential characteristics of the nervous state due to the contagions and infections. There is, however, a greater tendency to impotence and sterility in the alcohol nervous state than in the others, and consequently a lesser influence on race deterioration. The condition, moreover, has a tendency to set into action degenerative tendencies latent in the liver and kidneys. This action of alcohol on the liver and kidneys so interferes with their functions as to produce the effect already described as resulting in the contagions and infections from their toxins. Alcohol exerts a similarly deteriorating influence on the antitoxin-forming organs (especially on the testicles, ovaries and their appendages) to that already described as exerted by the toxins of the contagions and infections. To the direct toxic effects of alcohol are added, therefore, results of imperfect liver and kidney action and defective strengthening powers from deficient antitoxin secretion.

Like all toxic agents, alcohol interferes with the functions of the eye and ear nerves. Special weakness thus created is transmissible to the offspring. In the chronic form, alcoholism may well be compared in its effect with chronic contagions. There is, however, less tendency to infections with the microbes forming pus. There is a greater tendency to deteriorating action on the nervous system. There is in chronic alcoholism, as in syphilis, special tendency to that formation of connective tissue which destroys organs. The chronic mental disorders of chronic alcoholism resemble those of tuberculosis, except that the capricious state and exaltation are less frequent than the suspicional tendency, which is deeper, and takes the direction of delusions of poisoning and insane jealousy. The last are due to the deteriorating influence of alcohol on the generative organs.

Alcohol may limit its action to the central nervous system, and thus produce hereditary losses of power. It causes changes in the peripheral nerves, which in the offspring find expression in spinal cord and brain disorder through extension of the morbid process. But for its deteriorating effects on the ovaries and testicles, alcohol would be a most serious social danger, but through its action on the generative organs it tends to prevent the survival of the unfit, rather than to develop degenerates.

There is very little doubt but that the routine prescription of alcohol by the laity for painful menses, teething, toothache, etc., underlies many cases of degeneracy in the offspring. The prescription is the more dangerous because it is recommended in the hidden guise of nostrums by hysterics with blatant alcoholophobia. One of the most energetic female advocates of the legal prohibition of alcohol beverages indorsed very emphatically the nostrum of one of her hysteric supporters which contained 50 per cent. alcohol and 1 per cent. each of cocain and morphin. As the persons largely under the influence of such indorsement were hysterics, whose zeal for reform was largely an expression of desire for notoriety, the dangers of its use during menstruation can not well be overestimated. To reach this serious source of degeneracy from alcohol and the narcotics, a statement on each bottle of the exact composition of nostrums should be exacted by law.

Government could exercise a potent influence for good on alcohol abuse by improvement of sanitary conditions in the tenement or apartment-house districts. Experience in New York and elsewhere has shown that improvement in tenement houses produces decided decrease in the number of dramshops in tenement-house neighborhoods. The earlier tenement houses in New York, as elsewhere, were originally dwellings intended for one family. As these were replaced by houses specially built

2. Detroit Lancet, September, 1882.

for tenements with proper sanitary arrangements and improved ventilation, not only did a tremendous decrease occur in the infantile death rate, but a decrease also in the patronage of dramshops.. In many instances it was apparent that alcoholic abuse had grown out of poverty. Foul air and crowded quarters had begotten not only a desire for stimulants, but a desire for social intercourse. The dramshop met social needs as a club. It is along this line that government can make best use of its police power.

The prophylaxis of degeneracy in the mother and father may be summed up as simply the prevention of a state of neurasthenia, or nervous exhaustion, whether this condition (involving the functions of growth, motion and sensation, which, as Marinesco has shown, exist in every neuron and its processes) exhibits itself in the general nervous system or in the organs connected with alimentation, elaboration and excretion. Every factor of acquired degeneracy produces what is practically this condition of neurasthenia ere exerting any influence in the production of degeneracy. In other words, the neurasthenia of the ancestor becomes the neurosis of the descendant. Therefore the neurasthenia requires in its treatment in the ancestor the removal of the exciting cause (alcohol) and the treatment of the effect by physiologic rest in the truest sense of the word.

In a general way, therefore, the ordinary principles of hygiene applied to each individual case will suffice to prevent development of this neurasthenia. The part of government in this is very small. It is true here that, as remarked by Johnson:

> **"How small of all that human hearts endure,**
> **That part which kings or laws can cure."**

Training of the individual rather than governmental regulation must be the factor to prevent degeneracy in the ancestor. Indeed, governmental regulation, by injuring self-reliance (that factor so easily destroyed and so hardly regained), may itself be a potent factor in degeneracy.

THIS SYMPOSIUM ON ALCOHOL WILL BE CONTINUED NEXT WEEK.

INTRAMURAL ABSCESS OF THE PUERPERAL UTERUS.*

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With the object of eliminating misleading discussions, I will state that it is not the purpose of this paper to consider the subject of puerperal infection, but to deal with one of the results, that is, intramural abscess of the uterus.

Abscess occurs at the end of the second week or a little later, after the most acute symptoms of sepsis have passed. The cavity of the uterus, therefore, is apparently free from serious infection or débris. The temperature curve is septic and devoid of chills, unless complicated with thrombophlebitis.

When the appendages are not involved, pelvic examination is negative, except in thin or relaxed abdominal walls. When the abscess is single, a rounded, slightly flattened outline may be felt on the surface of the uterus, which, to the sense of touch, feels something like a small, deeply-seated fibroid tumor, but is more elastic, and the outlines are not so sharply marked. When the Fallopian tubes and cavity of the uterus are not infected and the uterus is firm in texture, diagnosis is not likely to be confused with other diseased conditions, except thrombophlebitis. The latter is marked by chills, sharp rise in temperature, and rapid decline to normal. This is repeated once or twice in 24 hours. In the interval, the patient's condition is apparently good (early in disease). In the late cases, frequent pulse regardless of temperature rise, pyemic temperature curve, and generally bad condition are noticeable. The absence of hard cord-like ridges along the course of the veins is a valuable sign in excluding this disease.

In 1895, I read a paper on this subject before the Southern Surgical and Gynecological Association, detailing 4 cases treated by incision and drainage with 4 recoveries. The paper excited much favorable comment. Since that time 4 additional cases have come into my hands. To those are now added 11 others culled from the literature of the subject. All of them have been verified either by operation or autopsy. A number of doubtful cases have been thrown out as untrustworthy.

Of the 19 cases, 4 were postmortem findings, 4 hysterectomies, with one death, and 11 others that were incised and drained with 11 recoveries. Fourteen followed full term of delivery, 3 abortions, 2 not stated, but all were puerperal in character. The number of abscesses in each case varied considerably, 12 having but one abscess each, 3 two, 3 multiple abscesses, and 1 case not stated. Of the 3 multiple abscess cases, 1 had 10 and another had 20.

The location of the abscess was mainly on the posterior wall near the fundus, 12 occurring at this point, 2 on the anterior surface of the uterus, 1 on the fundus, 1 on the posterior wall of the cervix, 1 on the right side near the fundus. Of the total number, 16 occurred in the region near the fundus, posterior, anterior, side, etc. The abscesses were either subperitoneal or just under the outer muscular layer of the uterus. This is accounted for, perhaps, by the fact that the main blood supply to the uterus is through this layer of muscle; consequently the vascularity of the parts favored phagocytic action at this point, the spread of infection becoming modified, suppuration resulted at the place where the barrier appeared. If such is not the case, suppurating centers should be found in deeper parts of the uterine walls with equal frequency.

When I read my paper in St. Louis, it was a matter of surprise that only 2 cases had infected tubes, neither of which was bilateral. The impression seemed to have prevailed that the Fallopian tubes were the only avenues of infection to the peritoneum, but so many abscesses occurring without involvement of the appendages shows that the infection passes directly through the wall of the uterus, along the lymphatics or blood vessels. In this way, acute peritonitis was excited on the posterior wall of the uterus. And in 2 cases the abscess burrowed through the peritoneum; one resulted fatally, the other became circumscribed by intestinal adhesions and was later drained by me.

In one case there was thrombophlebitis of the pampiniform plexus and uterine and ovarian veins of the right side. The condition was such the veins required ligation and excision as high as the brim of the pelvis. The case also had 4 retention abscesses between the coils of the intestines. Another had 5 abscesses similarly situated. In the latter case a prominent surgeon tried to drain through the vagina, making two attempts, but failed. When I opened the abdomen, the utter

* Read before the American Gynecological Society at Hot Springs, Va., May, 1906.

hopelessness of drainage, by that route, was apparent. The pus centers were too high in the abdomen and the fundal abscess so inaccessible the fingers could never have reached them from below, or, if perchance the uterine abscess could have been reached, it very likely would never have been detected as its elevation above the surrounding surface was so limited it would not have been located by the sense of touch. Other cases have proved to my mind that such cases are more accessible from above the brim of the pelvis. Certainly they can be better handled through the abdominal incision even if it should be desirable to drain below. The history of these cases shows that the expectant plan of treatment promises nothing. The patients all die.

Hysterectomy gave a mortality of 25 per cent, which perhaps would have been more if a larger number of cases had been treated by such means. The patients in all drainage cases recovered; 11 in number, 8 in my hands, 3 in others. This is a good showing when compared with the high mortality of puerperal hysterectomy.

It is but a reasonable conclusion to say that an abscess in the uterus should be treated as similar pus collections elsewhere; that is, on general surgical principles. Exceptions, however, should be made in cases of multiple abscesses for the chances of successful drainage are doubtful. Beside, the uterine musculature in such cases is so much involved in septic inflammation nothing short of hysterectomy will answer.

Further, I am impressed with the idea that the quickest and best work can be done through the abdominal incision even if drainage is made through Douglas's pouch. Complications encountered in the abdomen and especially thrombophlebitis of the pelvic veins require attention that is impracticable by the vaginal route. In all of my cases the patients were treated by the abdominal incision, but, in three, drains were pushed through into the vagina, one drained through stab wound near the abdominal opening, and four through the primary incision.

If this short paper directs the attention of this society to a diseased condition often overlooked it will serve its purpose.

DISINFECTANTS AND DISINFECTION.*

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IOWA CITY, IOWA.

The subject of disinfection is so broad and covers such a wide range of considerations that it is impossible to discuss it properly in the brief time allowed for this paper. Important as are such subjects as the disinfection of the patient's body, instruments, dressings, discharges of various kinds, etc., I have deemed it more important to view and consider the subject from the broader standpoint, namely, the disinfection of premises following contagious diseases.

For the disinfection of premises following contagious diseases a great many substances might be used. It may safely be said, I believe, that nine out of every ten of the advertised disinfectants are of very little value. Some of them are of some value as antiseptics and deodorants. Many of these advertisements are accompanied by good testimonials. There are three agencies that we should always keep in mind in general disinfection: 1, A gaseous disinfectant; 2, heat; 3, a liquid disinfecting solution.

GASEOUS DISINFECTION.

There are three methods of aerial disinfection: (1) By the use of formaldehyd gas; (2) by sulphur fumes; (3) by hydrocyanic acid gas. For the various contagious diseases the first of these methods is by far the best. Sulphur and hydrocyanic acid are better than formaldehyd only when we have to deal with animal life such as cockroaches, bedbugs, fleas, mosquitoes, etc. I have repeatedly exposed guinea-pigs, rats, bugs, etc., to the action of formaldehyd during fumigation, without any apparent harmful effects.

FORMALDEHYD.

For disinfection following contagious diseases, formaldehyd is far better than sulphur. Not only is it far more efficient, but has no or scarcely any deleterious influence on anything in the room. Sulphur will partially bleach many of the colors of wall paper and fabrics, dulls gilt and varnished wood and tarnishes metal. Formaldehyd gas has none of these deleterious influences except, when very strong, it sometimes tarnishes steel and iron. Formaldehyd is an irritating gas formed by oxidizing the vapors of methyl alcohol by passing them over platinum sponge or coke heated to redness ($CH_2OH+O = CH_2O—H_2O$). A saturated aqueous solution of this gas contains 40 per cent. of formaldehyd. Such solutions are sold under the trade names of "formalin," "formal," formol," etc. When the temperature of the gas is lowered to 68 F. or if attempts be made to condense or concentrate the 40 per cent. aqueous solution, some of the formaldehyd is polymerized into paraformaldehyd, a white solid substance of a soapy consistency. When this is dried (as by sulphuric acid) a white powder is formed known as paraform or triozymethylene. These solid polymers when gently heated are reconverted into the gaseous formaldehyd.

The fact that the gas is converted into the solid substance at a temperature of 68 F. is of the highest importance; it means that the temperature of a room to be disinfected should be above that point if the best results are to be obtained; on the whole a temperature of 60 F. has proved satisfactory; never ought the temperature be below 52 F. Formaldehyd will readily combine with organic compounds, making it a good deodorant. It is neutralized by ammonia, making the latter substance of value in getting rid of the formaldehyd fumes after disinfection has been completed.

How is the formaldehyd to be used? Carefully and thoroughly performed experimental work has demonstrated that several conditions are necessary in order to have the disinfectant action most efficient. Why is it that the results of various experimenters have been so different? Why does one man obtain better results with one method and another man with another method? These are questions of vital importance. In order to determine the cause of these discrepancies and also to find out, if possible, the best and most efficient method of generating formaldehyd gas, I have during the past two years performed a large number of experiments, some under circumstances in which I had control of all of the conditions present and could change or modify them at will, and others with conditions as they are ordinarily met with in practice. I shall not to-day burden you with many figures, but desire simply to state

* Read before a joint meeting of the Iowa State Board of Health and the Iowa Association of Local Health Officers, at Waterloo, Iowa, July 11, 1906.

that I obtained varying results by using various methods of generating formaldehyd gas. I found it to be an almost invariable rule that the manufacturers and supply houses fail to recommend a sufficient amount of the substance. If disinfection is to be done at all, it should be done thoroughly; otherwise it can not be of much value. As performed by some the only good it does, I believe, is a psychologic one; it calms the mind, and the reason why reinfection is not more common from such work is probably either the law of chance or the old principle, "The lame and lazy are always provided for."

Conditions for Using Formaldehyd.—The conditions which should be borne in mind in formaldehyd fumigation are as follows:

1. The amount of the substance used. If all conditions are favorable, a small amount of gas is sufficient, but in the absence of all favorable conditions a liberal allowance should be made for inefficiency of method. Under ordinary conditions when penetration of mattresses, etc., is required no less than 16 oz. of 40 per cent. formalin, all of the gas of which is available, should be used for every 1,000 cu. ft. of room space; if only surface disinfection is necessary, only one-half of that amount is necessary.

2. The gas should be evaporated as rapidly and in as concentrated a form as possible. This depends on the system used and the thoroughness with which all holes and places of leakage have been closed up.

3. The temperature of the room should at least be 70 F., if possible; the higher the better, although, of course, some disinfection will take place at a lower temperature. We can not rely on the disinfection if the temperature is below 52 F.

4. The atmosphere should contain considerable moisture, best if saturated, although 75 per cent. is very satisfactory. If the air is too dry, more moisture may be obtained by boiling water in the room or by simply pouring steaming water back and forth from one vessel into another.

5. The length of time of action. This will vary with the conditions already mentioned, although it is safe to say that the time of exposure in most instances should be from 12 to 24 hours. Very frequently no more than four hours are necessary.

6. Leakage of gas from the room. If care is not taken to close up all cracks and holes in the room carefully, a larger amount of formalin must necessarily be used. The State Board of Maine pays no attention to small openings in the rooms, but, to compensate, recommends that 32 oz. of the formalin be used for every 1,000 cu. ft. of room space.

Methods of Using Formaldehyd.—Having these conditions in mind, let us briefly review the different methods of using formaldehyd gas. They are as follows:

1. Formalin, evaporated by heat in the room to be fumigated.
2. Formalin, evaporated in one of the several forms of apparatus—the gas passing through a key-hole in the door.
3. Formalin, as a spray produced by passing air or steam through it.
4. Formalin, sprayed about the room.
5. Formalin used to saturate sheets which are hung up in a room and the solution slowly evaporated.
6. Formaldehyd produced by passing the vapor of methyl alcohol over a heated platinum sponge.
7. Formaldehyd generated by heating one of its solid forms.
8. Formalin evaporated by the adding of a chemical agent such as potassium permanganate.
9. Formalin mixed with equal parts of water and boiled off.

No. 1.—The generation of formaldehyd gas by evaporating formalin in the room to be disinfected by the use of a lamp, has the great disadvantage of not being able to control the amount evaporated, and the constant danger of fire.

No. 2.—The evaporation of the gas in special forms of apparatus, the gas passing through a key-hole or some other opening, has the special disadvantage that it requires almost invariably a rather complicated form of apparatus which is very liable to get out of order.

No. 3.—The method of spraying a solution of formalin by passing air or steam through it, is better than method No. 2, only in that more moisture is present, but has the disadvantage in that it requires a longer time to evaporate.

No. 4.—The spraying of a solution of formalin about the room is distinctly disadvantageous in that the gas is slowly evaporated. This disadvantage may be compensated for by taking twice the usual amount of formalin (which would mean about two pints for every 1,000 cubic feet), and leaving the rooms exposed to the fumes at least twenty-four hours. The best results are obtained when the formalin is mixed with equal parts of water before it is sprayed. This is the method used in the city of Philadelphia and very satisfactory results are obtained. Every exposed surface in the room must be thoroughly sprayed. The procedure is rather disagreeable to the operator, on account of his being obliged to remain in the presence of the fumes for so long a time.

No. 5.—The remarks made in regard to method No. 4 also apply to the method of evaporating formaldehyd slowly from sheets which have been saturated with a solution of formalin and hung in the room. This method is used in Chicago.

No. 6.—Fumigation by the immediate production of formaldehyd gas by passing the vapor of methyl alcohol over a heated platinum sponge, is as a rule, very unsatisfactory.

No. 7.—The evaporation of the gas from one of the solid forms has several disadvantages: (a), not enough moisture is present; (b), it requires fire in the room in most instances; (c), it is rather expensive, for instance, it requires from 150 to 200 of the Schering pastilles to disinfect properly a room with 1,000 cubic feet of space; (d), the amount generated can not always be controlled. It has the advantage that the formaldehyd exists in a convenient form and as such does not very readily disintegrate.

No. 8.—The method of evaporating formaldehyd vapor by adding to the 40 per cent. solution some chemical agent, such as potassium permanganate, is a comparatively new one, and I believe it to be one of the best, if not the best. The formaldehyd solution is poured into a rather deep vessel in which potassium permanganate has previously been placed. The potassium permanganate, by oxidizing a portion of the formaldehyd, changing it to formic acid, produces enough heat to evaporate the remainder. The first experiments with this method from which we have any reliable data regarding results, were performed by the State Board of Health of Maine in 1904. They obtained perfect disinfection by using two pints of formalin and 13 ounces of potassium permanganate for every 1,000 cubic feet of space. They did not take the usual precautions of sealing cracks and other small openings about the house, and they permitted the gas to act for but four hours.

AUTHOR'S EXPERIMENTS.

My first experiments were performed with the view of confirming the results obtained in Maine. Later I modified the method somewhat, with the object principally of lessening the quantity of material used. I have found that if the vessel from which the evaporation is to be made is first slightly heated the evaporation is more rapid and more complete, and the deposit of polymerized formaldehyd on the sides of the vessel is prevented. The radiation of heat may also be prevented by wrapping asbestos paper over the bottom and sides of vessel or by placing it in a wooden bucket. A convenient vessel for this purpose is a tin or galvanized iron pail which consists of two portions, a lower, which is about 10 inches in diameter and about 10 inches high, and an upper portion, consisting of a band of tin

or galvanized iron attached to the lower portion, but which extends outward so as to form an angle of abut 25 degrees with the vertical. This portion is about 10 inches high and the upper diameter about 16 inches.

Potassium permanganate in the form of very fine crystals,or in a powdered condition, is placed in the pail preferably previously heated. There should be 8½ oz. of the potassium permanganate for every 1,000 cu. ft. of room space to be disinfected. (Maine State Board of Health recommended the use of 13 oz.). Then the solution of 40 per cent. formaldehyd (formalin) is added —20 oz. for every 1,000 cu. ft. of room space to be disinfected. (Maine State Board of Health recommended 32 oz. of formalin.) Effervescence begins immediately. This method is, we believe, the one best adapted for general fumigation. The formaldehyd is liberated very rapidly, which makes the method very efficient and, when rightly performed, reliable. A small amount of moist residue which has the odor of formaldehyd is always left in the bottom of the vessel. The vessel to be used may be such as the one described or any deep pail or vessel will serve the purpose about as well. It is the best if the vessel is first heated, in that it produces a more rapid and complete evaporation of the formalin and prevents some of the gas from collecting on the side of the vessel in a polymerized form. The potassium permanganate should be in small pieces, preferably in a ground condition, because the action will then take place much more rapidly. Twenty oz. of formalin are used for every 1,000 cu. ft., since there is a loss of about one-fifth of the amount during the process of evaporation. This means that about 16 oz. of formalin become available in its gaseous state. If a low vessel is used pieces of paper should be placed on the floor to prevent the floor from becoming soiled by some of the fluid being accidentally thrown out during the effervescing process. The method is simple, easy to perform, without any danger of fire and does efficient work. I, therefore, most heartily recommend it.

LIQUID DISINFECTION.

Most physicians do not rely entirely on gaseous disinfection, but advise the washing of the floors, walls and furniture with some liquid disinfectant. There is some reasonable ground for this feeling of uncertainty. The principal reason, I believe, is the fact that most of our manufacturing houses recommend too little of the fumigating agent, and they are always able to present figures demonstrating the efficiency of their method and often the inefficiency of other methods. Formaldehyd is formaldehyd, no matter what way it is generated, and, to insure efficient action, there are two points that we must always bear in mind: 1, That enough of the agent is used; 2, that the formaldehyd be permitted to work under favorable conditions.

If we are sure that these conditions are fulfilled, then I see no need of following a gaseous disinfectant with a liquid one; if we are not sure, then, I believe, it should always be used. Of course, it may be argued that, inasmuch as the use of the liquid disinfectant following the use of formaldehyd gas does no harm except taking away a little of the shine from varnished furniture, it is better that it should always be used, because it associates the idea of washing with disinfection, which notion is a good one to keep constantly before the people. However much of dirt and bacteria may be removed by washing alone, the terms washing and disinfection are not synonymous and it is better to have disinfectants stand on their own merit.

There are, however, positive indications for the use of liquid disinfectants. Suppose, for instance, a child who to-day shows signs of being affected with measles attended school or church yesterday and, not feeling well, remained in her seat all afternoon. In such instances I do not think that general fumigation is absolutely necessary and that washing the floors and furniture in the neighborhood of the child's seat is sufficient. I believe, however, it to be a good thing to fumigate school houses and churches several times a year on general principles if there are any contagious diseases among the children of the community.

What are the best liquid disinfectants? The market to-day is flooded with disinfectant agents, nine-tenths of which do not, I believe, merit the term. Except for special purposes, I see no need of using anything aside from carbolic acid or some of the coal-tar proprietary preparations, mercuric bichlorid or biniodid. Carbolic acid may be said to be the king of disinfecting agents. It is stable, it is certain, it has penetrating properties. For washing it should be used in a 5 per cent. solution. The various proprietary coal-tar compounds are, as a rule, also very good disinfectants and have an advantage over carbolic acid in that they are cheaper and, second, they do not have such irritating and caustic properties. Their use can be recommended.

Bichlorid of mercury is a most efficient disinfectant when properly used. If freshly prepared with water that does not contain much organic matter, it may be recommended as the best agent for washing floors, woodwork, etc. It should be used in a 1-1000 solution—if much organic matter is present, in double that strength. Formalin is not to be recommended as a liquid disinfectant. A 5 per cent. solution of it has less than one-tenth the value of a 5 per cent. solution of carbolic acid. The various preparations on the market that go by the names of "chlorids" and other fanciful terms have but little disinfectant value.

OUTLINE OF METHOD.

After having already presented the various phases of the subject, it may seem superfluous to go any further into the detail of method of disinfection, but in this, as in most other things, success depends as much on the details as on the generalities. I will indicate briefly how, under ordinary conditions, I would disinfect a room.

1. The person who disinfects should put on a cap and gown and face, at least mouth and nose, covered with a piece of gauze which are later left in the room to be disinfected with the other objects.

2. All holes and cracks should be sealed by pasting over them pieces of paper or filling them with cotton or cloth.

3. Precautions under certain circumstances:

   a. If the wall paper of the room is badly torn in several places, it should be removed.

   b. If, by accident, a rug or carpet should have remained in the room, it should be thrown over the back of a chair.

   c. If the room has no door which it is desirable to open, one window should be left unlocked, to be thrown open when the fumigation is complete.

   d. No vessels containing water should be left in the room.

4. The patients' clothing and the bed clothing should

be thrown over the ends of the bed, backs of chairs or over a wire or rope stretched across the room.

5. Valuable books should be opened and placed on end, so that the leaves may be separated as much as possible.

6. Determine the temperature of the room and see that it is above 60.

7. See that the room contains enough moisture in a vaporized state.

8. Potassium permanganate is placed in a vessel which has been slightly heated beforehand; to this the formalin is added; 8½ oz. of the potassium permanganate and 20 oz. of the formalin (40 per cent. formaldehyd) to every 1,000 cu. ft. of room space to be disinfected if penetration of mattresses, etc., is required; if only surface disinfection is necessary no more than one-half of these volumes is necessary. If the formalin is generated by a method which liberates all of the gas only 16 oz. are necessary. These volumes are much greater than those given by the manufacturer of most disinfectants. No doubt, also, the volumes given are somewhat greater than absolutely necessary in all instances. Nevertheless, I think that in using disinfectants we ought to use the same principles used by financiers in estimating profits or expenses. They calculate closely just what they will be and then allow a good margin against themselves for unforeseen circumstances. On account of the variability of strength of many preparations of 40 per cent. formaldehyd, we should be sure that we secure our solution from a reliable house.

9. Let the gas act for 6 to 12 hours and open doors or windows. The placing or evaporation of a little ammonia in the room will neutralize the formaldehyd and thus hasten the disappearance of the odor of that substance.

10. All bedding, patient's clothing, etc., that is not harmed by boiling should next be boiled for one-half hour.

11. Wherever possible, the mattress, rugs, etc., should be steamed; I believe that every large city should have a steam disinfector for this purpose. Where this is not possible, these articles should be taken outdoors and thoroughly aired and beaten. The person beating them should have a piece of gauze tied over his head and preferably should also wear a suit which may be sterilized by boiling.

12. Papers, rags, cheap books and other articles of little value should be burned.

13. In case it is not possible to obtain all of the favorable conditions for formaldehyd disinfection, or if there is any suspicion that there are still organisms that need to be killed, all of the woodwork and, if necessary, the walls should be washed with a liquid disinfectant, such as bichlorid of mercury, 1-1000; carbolic acid, 5 per cent., or one of the various proprietary coal-tar preparations properly diluted.

Good Suggestions to Medical Writers.—The *Deutsches Archiv f. klin. Medizin* on the fly leaf begs its contributors to make their communications as short as possible in the interests of prompt publication of their works. Those that would fill more than three printed forms of the *Archiv* can be accepted only exceptionally. The authors are asked never to paste in their illustrations in the MSS. or to draw them on the pages, but to send them separately on separate sheets. Satisfactory reproductions, it adds, are possible only when the originals are entirely correct.

ROENTGEN RAYS IN THE TREATMENT OF LUPUS VULGARIS.*

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In presenting this important subject I shall endeavor to be as concise as possible, speaking from the standpoint of the radiologist rather than that of the dermatologist. I will strive to demonstrate two distinct methods of treatment, each applicable to a certain condition of the disease and not to another. Inability to effect a cure when the one method, which for certain forms of the disease would be correct, is used on another form is, I believe, the cause of some reported failures.

Freund reported cases treated in 1897 with success, and in 1900 P. M. Jones, of California, reported very fully his work along this line. Thus we see the length of time the *x*-ray has been used in this disease is considerable, and it should have been placed on an established technic. The diagnosis in my cases rested on microscopic findings in more than half the cases, and in the remainder on the opinion of capable dermatologists. These cases usually run over such long periods, and the patients are seen by so many physicians, that they present themselves with a ready-made diagnosis, which only needs to be confirmed.

Another class of cases showing both signs of lupus and epithelioma can be diagnosticated by the reaction under the *x*-ray.

PATHOLOGY OF LUPUS.

From the pathology of lupus as a basis, I hope to demonstrate the rationale of the appendix treatment. Hyde and Montgomery state:

> **The essential lesion in all forms of cutaneous tuberculosis is the nodule of granulation tissue containing small, round cells, larger epitheloid cells and giant cells, having a homogeneous center, and few or many large vesicular nuclei situated for the most part along the border of the cell. Around and between these cellular elements is woven a network of connective tissue bundles.**

Here follows a significant fact: Although there is marked proliferation of the endothelium of the vessels, no new vessels are formed, the old ones becoming obliterated and a necrosis or cheesy degeneration of both cells and intercellular substance results. Tubercle bacilli are less numerous in lupus vulgaris than in any other tuberculous skin lesion, but are always present in the nodule and are predisposed to the giant cell.

The above-named authors further state this important fact, that in lupus, more than in any other form of cutaneous tuberculosis, the proliferation of cells leads to a constructive or regenerative process, as a result of which the lupus nodule may be replaced by scar tissue, or there may be an excessive formation of new connective tissue producing the various degrees of elephantiasis so often seen in lupus.

Involution of the lupus tissue is accomplished by, 1, reabsorption of the tissue; 2, fibrous metamorphosis, and, 3, by ulceration. When fibrous metamorphosis takes place a mass of connective scar tissue takes the place formerly occupied by the lupus growth.

I have had a number of microscopic examinations made of lupoid tissue after the diseased area had been subjected to *x*-ray treatment for some time, and the findings seemed to agree very closely with those of Heuter, who, as far back as 1900, stated that the primitive lupus tissue underwent a transformation into fibrous

* Read before the seventh annual meeting of the American Roentgen Ray Society, Niagara Falls, N. Y., Aug. 30, 1906.

tissue, only a few groups of tuberculous cells remaining. The giant cells were very numerous and were most marked at the margin of the nodule, where they were seen in great masses, almost or fully displacing the leucocytes which normally surround the tuberculous focus. This arrangement of cell elements allows the greatly increased connective tissue immediately and closely to surround the nodule. It makes a well-defined limit to the tubercle. No tubercle bacilli could be found in any case after an extended course of treatment. Dr. Grouven, who has made valuable research in this field, says about the same thing. He is struck by the abundant connective tissue which encapsulates the several tuberculous foci in the form of thick bundles of fiber penetrating more or less freely the interior of the foci themselves. Thus the remainder of the nucleus is enveloped by a closely woven network of connective tissue. The spindle cells, which are present in great numbers, also suggest the active proliferation of connective tissue. Doutrelepont reports of a section from a case after ten weeks' treatment that,

> The tubercle is seen to be surrounded by a mass of leucocytes and is replaced almost entirely by connective tissue containing a few lupoid cells with an occasional giant cell.

He claims that the cure by the use of the *x*-ray seems to be as follows: The hyperemia set up by the *x*-rays provokes an abundant migration of leucocytes from the vessels. This action takes place first at the edge of the tuberculous nodule and penetrates by little projections into the substance of the nodule, being in time changed into fusiform cells and fibrous connective tissue. The presence of these fusiform cells bears witness to the active formation of the connective tissue.

These few remarks on the fine anatomy of the parts, both when Nature is attempting a repair alone or when the *x-ray* has been used, give us the clue to a rational treatment, which I hope will meet with the society's approval.

Cases presenting themselves for treatment readily divide themselves into classes in regard to size: the small pea-sized lesion with a single nodule and a surrounding zone of infiltration, and the more extensive disease with numerous nodules and more or less unhealthy intervening skin.

I will speak of the latter first, remembering that Nature's first effort in repair, as demonstrated above in these cases unaided, being to produce connective tissue and, as it were, crowd out the unhealthy deposit, she first sends from the blood vessels in the parts a large number of leucocytes. We can cause just this to occur with the *x*-ray, a mild degree of radiation with a medium tube causes fatty degeneration in the blood vessels near the surface, and the leucocytes pour forth into the tissue and later fibrous connective tissue takes its place. This step being accomplished, we must wait until the skin recovers nearly a normal appearance. Now we have nodules alone to care for, the skin between being simple, non-infected scar tissue. Again, turning to Nature, what does she do with these tuberculous foci? Causes them to slough out. Just so with the *x*-ray.

Protecting the new made connective tissue the ray is applied only to the nodules. Here, as in the first class of cases in which there is a single small infection, this ray must be applied in large and repeated doses, with a low action tube, until necrosis will follow, but not until it actually occurs. All this being accomplished, we have a healthy scar surface, and small non-tuberculous simple ulcers, which heal rather slowly, but seem to be, when healed, permanent. This is the plan which may be varied in the details at the will of the operator, but with very pleasing success I have found.

DETAILS OF AUTHOR'S TECHNIC.

As a generator I use a 12 glass plate static, 32-inch, run at about 400 revolutions a minute. This gives a high voltage, low amperage current of good volume. The tube is the ordinary American made, German type, with a heavy platinum anode. I believe other metals or platinum plated targets are not as effective.

For the treatment of the general surface the tube backs up an air spark gap of from 1 to 2 inches, distance from the anode to the skin about 10 inches, and the treatment 10 minutes in duration. Application is made twice a week until the first idea of hyperemia can be obtained. This averages about a month or less, then the treatments are given once a week for about a month longer.

After this the patient is told to return in a month when usually the surface is of a pinkish healthy color, and nodules can be clearly made out. At times several have been brought to the surface which were not visible before. Now, protecting the intervening tissue, the nodules are alone treated with a tube having less than 1 inch (less than ½ inch is better) air spark gap.

The anode is 6 inches from surface, the treatment 12 minutes long, and made 3 times a week, until a very decided reaction takes place, which, when the cumulative effect of the treatment occurs produces scabbing and slight ulceration. As soon as the active cauteral action commences to subside I have found the high frequency discharge, given off from a low vacuum tube, excited by a Tesla coil and resonator attached to the static machine, to be of great value in hastening the repair and cicatrization.

PROTECTION OF THE PATIENT.

I have tried various methods, but none seems as good as thin sheet lead, about like thick tea lead. This I have backed up with cloth stitched around the edge, to prevent from brush discharge, and holes are cut through—first, for the whole surface, and bound with adhesive plaster, making a permanent shield, which will last and remain perfect all through the treatment. For the second part of the treatment a smaller sheet of lead is taken, and individual holes are cut for each nodule. This shield is held exactly in position by 2 or 3 narrow strips of adhesive plaster, which project over the edge and adhere to the skin. Over this is laid the first or large shield, to protect the surrounding parts.

I usually have patients in the recumbent position, as in this way they are the most comfortable, and less apt to move, which changes the target distance. It also allows the shield to be without any support, as in the case of the face a band around the head.

ADVANTAGE OF X-RAY TREATMENT.

A word in regard to the usefulness of *x*-ray treatment in comparison with the other methods practiced. The surgical method, either by the knife or curette, is painful and leaves frequently scars. The percentage of returns is large, as the infection often extends much farther than is apparent at the time of operation.

Worse than this, however, is the danger of infection to the adjacent or even more distant parts from the open blood vessels and lymphatics.

The other method, that of Finsen, is a competent rival

SUMMARY OF PATIENTS TREATED.

No.	Name.	Location.	Extent.	Duration, Years	Diagnosis.	Months of treatment.	Years since treatment.	Family history.	Result.
1	H. B.	Cheek	½ sq. in.	7	Microscopic ...	3	3	Tuberculous ...	Cure.
2	C. W.	Tip of nose.....	Pea sized.	4	Clinical.	4	3	Tuberculous ...	Cure.
3	C. G.	Tip of nose.....	Pea sized.	5	Clinical.	5	2½	Tuberculous ...	Cure after relapse.
4	J. S.	Cheek	3 sq. ins.	11	Microscopic ...	36	1	Non-tuberculous.	Apparent cure.
5	J. B.	Neck	2 sq. ins.	3	Microscopic ...	3	2	Non-tuberculous.	Cure.
6	D. K.	Ankle	4 sq. ins.	2	Microscopic ...	6	1	Non-tuberculous.	Stop treat. Not cured.
7	J. H. C. ..	Cheek and head...	1 sq. in.	3	Clinical.	3	1½	Non-tuberculous.	Cure.
8	J. D.	Face	6 sq. ins	2	Clinical.	9	½	Tuberculous ...	Cure.
9	H. J. G....	Cheek	4 sq. ins.	10	Microscopic ...	9	1	Tuberculous ...	Cure.
10	F. W. H...	Leg	1 sq. in.	1	Clinical.	3	1	Tuberculous ...	Cure.
11	L. L.	Leg	6 sq. ins.	20	Microscopic ...	6	¼	Tuberculous ...	Not cured.
12	B. G.	Cheek	½ sq. in.	5	Clinical.	3	½	Non-tuberculous.	Returning.*
13	J. S.	Tip of nose.....	Pea sized.	½	Clinical.	3	2	Non-tuberculous.	Cure.
14	T. M.	Face	6 sq. ins.	10	Microscopic ...	9	1	Tuberculous ...	Cure.
15	J. D.	Abdomen	2 sq. ins.	4	Microscopic ...	3	2½	Non-tuberculous.	Cure.

* Treated for epithelioma.

of the *x*-ray treatment, but it has some very serious objections. The treatment extends over a long period, sometimes years, at frequent intervals, now and then as often as twice daily, each sitting being, at times, an hour in length, so that the total time under actual treatment is many times that which is required by the *x*-ray.

During all this time a competent attendant must be actually with the patient. The best results from the Finsen treatment are obtained by the direct solar rays, and so this method is dependent somewhat on weather conditions.

A very serious drawback with the Finsen ray is the limited area that can be treated at a sitting, making multiple treatment necessary, and again increasing the time to cure. There is also danger of reinfection from the uncured part before the whole area can be treated.

ACTUAL RESULTS.

The table gives a tabulated summary of 15 selected cases treated by me in the last 4 years. These cases were selected, not because of the good results, but because of the certainty of the diagnosis. Many, as you will see, were diagnosticated by the microscope, while all those, in which the diagnosis was made by clinical evidence, had been treated by competent specialists for lupus or referred by them to me with the diagnosis so made. In those marked cured the tissue has every appearance of health, with not the slightest evidence of a return. The skin is smooth, and time enough has elapsed since treatment to assume that the cure is permanent. In those marked apparently cured, there is no evidence of lupoid tissue, but the skin is still a little rough and not as good as in the former class.

This gives an average time of treatment of 6 months, which, if Case 4 were taken out, would be reduced to 5 months. This patient came from a distance and, due to poor general health, was very irregular in attendance, sometimes being absent for several months.

The average time since treatment was discontinued is over 1 year and 8 months, long enough, it seems, to make the results probably permanent.

The percentage of cures is 80, or, if Case 12 is taken out, 87 per cent. This case I treated, by error, for epithelioma and now the growth, which is small and in all probability curable when the proper method is applied, is returning. If only the ones with smooth skin are regarded cured, the percentage falls to 75, which I still consider very good.

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FURTHER REMARKS ON THE DIGESTIVE BEAD TEST FOR ASCERTAINING THE FUNCTIONS OF THE DIGESTIVE APPARATUS.

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At the beginning of the year 1906 I devised a new method of testing the functions of the digestive apparatus.[1] It consists in giving the patient in a gelatinous capsule beads with various food substances attached and examining the feces with the stool sieve until all the beads are recovered. The latter are then inspected with regard to the presence or absence of the attached foods. Thus we see whether these have passed the digestive tract unaltered, or whether they have been digested.

TEST SUBSTANCES AND INDICATIONS.

Ordinarily, I give the following six test substances: 1, catgut; 2, fishbone; 3, meat; 4, potato; 5, mutton fat; 6, thymus gland. Physiologically, the two first substances (catgut and fishbone) are usually digested in the stomach and the remaining four (meat, potato, mutton fat, thymus) in the intestine.

All the beads (or at least the greater part of them) usually appear in the stool under normal conditions in one or two days. The beads return, either all empty or there is yet a trace of fat or thymus (or fishbone) left. Deviations from these rules point to pathologic conditions.

With regard to the functions of the digestive apparatus the following conclusions may be drawn: In case all the beads (or their greater number) reappear in a much shorter time than 24 hours there is an accelerated motility; if they reappear after 48 hours a retarded motility exists. The digestive function is good if all the beads are empty or if there are but traces of fat or thymus (also fishbone) left. A reappearance of catgut or meat, potato, much fat, much thymus always indicates a poor digestive function for the food substance in question. If all these test substances reappear in the stool an absolutely poor digestive function exists.

Recently, I have examined the following cases[2] with the bead test, which are grouped together in Table 1.

1. "New Method of Testing the Functions of the Digestive Apparatus," Med. Rec., Feb. 10, 1906.

2. The cases reported in Tables 1 and 2 are taken from my private practice and from the medical ward of the German Hospital, New York City.

TABLE 1.—NEW CASES EXAMINED BY THE BEAD TEST.

No.	Name.	Disease.	Beads, when found.	Result.
1	E.	Hyperchlorhydria	4 after 20 hours. 2 after 44 hours.	Everything empty.
2	Mrs. G.	Enteroptosis; hyperchlorhydria.	1 after 18 hours. 1 after 32 hours. 4 after 45 hours.	Everything empty except fat.
3	M. L.	Hyperchlorhydria; atonia ventriculi.	1 after 20 hours. 3 after 44 hours. 1 after 60 hours.	Everything disappeared; trace of thymus present; nuclei indistinct.
4	H.	Hyperchlorhydria; dilatatio v.	1 after 24 hours. 4 after 48 hours.	Everything empty; potato bead missing.
5	Mrs. A.	Enteroptosis; hyperchlorhydria.	1 after 22 hours. 3 after 46 hours. 1 after 58 hours. 1 after 66 hours.	Everything disappeared except trace of mutton fat and thymus.
6	Q.	Dilatatio v.; hyperchlorhydria.	6 after 59 hours.	Potato, fishbone, meat disappeared.
7	I. R.	Achylia gastrica; anorexia.	4 after 24 hours. 1 after 48 hours.	Trace of fat; catgut and thymus present whole; nuclei disappeared.
8	T.	Hyperchlorhydria; ulcus v. (?).	4 after 24 hours. 2 after 50 hours.	Everything empty except potato; one-third present; trace of thymus present; nuclei disappeared; trace of fat present.
9	T.	Same 16 days later (after rest in bed and ulcer treatment).	2 after 16 hours. 4 after 30 hours.	Everything disappeared except trace of potato.
10	Mrs. F.	Gastralgia; hyperchlorhydria; ulcus v. (?).	2 after 26 hours. 2 after 44 hours. 2 after 56 hours.	Everything disappeared except fat and potato; three-fourths present.
11	J. K.	Lues; gastralgia; atonia v.	1 after 18 hours. 5 after 32 hours.	Everything empty.
12	Miss O.	Gastralgia; colitis.	4 after 44 hours. 1 after 49 hours.	Everything empty.
13	Miss S.	Atonia v.; membranous enteritis; spastic constipation.	1 after 54 hours. 1 after 67 hours. 3 after 134 hours.	Everything empty; thymus bead not found.
14	Dr. R.	Chronic gastritis.	1 after 20 hours. 5 after 40 hours.	Everything disappeared except trace of fat and thymus; nuclei partly present.
15	Rev. Dr. P.	Gastritis chr.; atonia coli.	1 after 49 hours. 4 after 77 hours. 1 after 154 hours.	Trace of potato found; fat and thymus present; nuclei disappeared; everything else empty.
16	Geo W.	Achylia gastrica; enteritis chr.	2 after 18 hours. 4 after 40 hours.	Everything disappeared except catgut, thymus and a trace of fat.
17	I. R.	Achylia gastrica; anorexia.	4 after 24 hours. 1 after 48 hours.	Fat, fishbone, potato, thymus present; nuclei disappeared; meat present; catgut bead not found.
18	Louis L.	Carcinoma v.; achylia gastr.; ent. chr.	5 after 44 hours.	Catgut, meat, thymus found; potato and mutton fat disappeared; fishbone bead not found.
19	R.	Myocarditis chr.; nephritis chr.	4 after 41 hours. 1 after 87 hours.	Catgut, meat, fishbone disappeared; trace of fat present; trace of thymus; nuclei disappeared.
20	S.	Banti's disease	3 after 41 hours.	Fishbone, meat disappeared; trace of fat present.
21	Z.	Myocarditis; chr.	4 after 48 hours.	Catgut, meat disappeared; fishbone present; trace of fat present.
22	A. B.	Nephritis chr.; arteriosclerosis.	4 after 17 hours.	Catgut and meat disappeared; potato present; thymus present; nuclei disappeared.
23	E.	Cholecystitis	1 after 24 hours. 1 after 41 hours. 1 after 60 hours.	Catgut and potato disappeared; thymus present; nuclei disappeared; the rest not found.
24	D. B.	Pneumonia	5 beads found in course of a week.	Meat, potato; fat disappeared; catgut and thymus present; fishbone bead not found.

ANALYSIS OF TABLE 1.

In perusing Table 1, the following may be observed:

Cases 1 to 6, of pure hyperchlorhydria, showed pretty good motor and digestive functions; in 2 everything has disappeared; in one a trace of thymus, in another a trace of fat has remained; in one a trace of fat and thymus, and in one a trace of fat, catgut and thymus (whole) has remained. Cases 8, 9 and 10, of hyperchlorhydria complicated with a probable ulcer, showed good motility and diminished starch and fat digestion. In each of these potato was present (once a third and once three-quarters), as also fat (once trace, once much). A trace of thymus was present in one of them. In one of these cases of probable ulcer of the stomach the digestive bead test was repeated sixteen days after instituting the regular Leube treatment of ulcer of the stomach (rest abed, diet, etc.). In this second test there was only a trace of potato undigested, while everything else had disappeared. Cases 11 and 12, of nervous gastralgia, showed good motor and digestive functions; everything had disappeared. Case 13, of atony of the stomach complicated with spastic constipation, showed good digestion; everything had disappeared; but greatly retarded motility. Cases 14 and 15, of chronic gastric catarrh, showed the presence of a trace of fat and thymus in one, and in the other (complicated with atony of the bowel) a trace of potato aid of somewhat more fat and thymus was found. In the latter the motor function was also greatly retarded.

Cases 7, 16 and 17, of achylia gastrica, showed good motility but somewhat impaired digestion. In one catgut, thymus and a trace of fat remained, while the rest had disappeared; in the other two all the test substances were present. The disappearance of the fishbone in Case 16 (with achylia gastrica) is worthy of special mention. Case 18, of cancer of the stomach complicated with achylia gastrica, had normal motility and impaired digestion. Catgut, meat and thymus were present, while potato and fat had disappeared. The fishbone bead was not recovered. Cases 19 to 24, of various

other (not digestive) diseases, often showed the presence of traces of fat and thymus, occasionally also of potato. The motility was not considerably impaired, except in Case 24 (pneumonia), in which it was greatly retarded.

BEAD STRING.

The bead test, as used until recently, has the great disadvantage of necessitating an examination of the stools, especially in pathologic conditions, for a long period of time (several days, sometimes even a whole week,) in order to recover all the beads. To avoid this obstacle I had the idea of stringing the different test beads and tying them together on a silk thread. In this manner they all must appear in one stool, and the period of examinations is thus considerably abbreviated. In order to diminish the number of beads and also the length of the string, two food substances each, may be fastened to one bead, thus, for instance, catgut and fishbone, meat and thymus, potato and fat. The bead string, with the food substances attached, as I now use it, appears as in the illustration. Instead of leaving the ends of the string free, as in the illustration, they may be tied together and, thus, a circle is formed. With regard to the employment of the test this is of no special moment. The bead string is put into a gelatinous capsule and, thus, administered.

In case the bead test is made with a view of examining not so much the motility as the digestive function the method can be still further facilitated by giving the patient a cathartic (two tablespoonsful of castor oil or one to two teaspoonsful of Carlsbad salts and the like)

Bead string with food substances attached; a, mutton fat; b, meat; c, thymus; d, potato; e, catgut; f, fishbone; g, silk thread.

15 to 16 hours after the administration of the test capsule. The bead string is thus often recovered before a whole day has passed.

Table 2 gives all the cases examined with the new digestive test capsule (bead string).

ANALYSIS OF TABLE 2.

Table 2 shows the following: In Cases 1, 2 and 3, of hyperchlorhydria, the motility was normal; in Case 6 it was greatly retarded and complicated with spastic constipation. The digestive function was good; everything had disappeared except a trace of fat in one and a trace of thymus in two. Cases 4, 22 and 23, of trichinosis (afebrile period), revealed normal motility and good digestive function. Everything disappeared except a trace of fat and fishbone in Case 22 and thymus in Case 23. Case 5, of ulcer of the stomach complicated with severe anemia, showed good motility but greatly impaired digestive function; meat, fishbone and thymus were present as a whole, two-thirds of potato, while catgut and fat had disappeared. Case 7, of chronic gastric catarrh and atony of the bowel, showed retarded motility and good digestion. Everything disappeared except one-third fat. Case 8, of cancer of the stomach complicated with achylia gastrica, revealed normal motility and impaired digestive function; there were present half of the potato and meat, one-third of thymus and fat (as a whole); catgut and fishbone had disappeared. Case 9, achylia gastrica complicated with pernicious anemia, showed an absolutely bad digestive function; catgut, fishbone, meat, thymus undigested; fat present in small quantity and two-thirds of potato.

Cases 10 and 11, of severe catarrh of the bowels, showed, during an exacerbation of patient's condition, accelerated motility and poor digestion; meat, thymus, fishbone, potato unchanged; catgut present in traces; fat has disappeared. During an amelioration of patient's condition, however, the bead test revealed normal motility and pretty good digestion; everything disappeared except half of the potato. Cases 12 and 13, of chronic dysentery, revealed during an exacerbation, accelerated motility and absolutely poor digestion; everything was present; while during an amelioration patient showed accelerated motility, but the digestive function was not so greatly impaired; catgut, fishbone, meat disappeared; fat was present; two-thirds of thymus and potato were present. Case 14, acute intestinal catarrh, showed accelerated motility and pretty good digestion. Everything disappeared except half of fat and thymus. Case 15, hydrocephalus complicated with chronic intestinal catarrh, showed accelerated motility and good digestive function for catgut, fishbone and meat, while fat, potato and thymus were present. Case 16, chronic catarrh of the stomach and intestinal tuberculosis revealed normal motility and poor digestion; catgut, meat, thymus, fat were present as a whole; fishbone and potato had disappeared. Case 17, dilatation of the stomach (pronounced atony) and atony of the bowel, showed that catgut, fishbone, meat, fat had disappeared; the whole of potato was present; thymus, trace present.

Cases 18 and 19, of gastroenteritis toxica (one of a severe, the other of a mild type), revealed during the febrile period: the mild case somewhat retarded motility and good digestion, everything disappeared except one-fourth of thymus; the severe case retarded motility and poor digestion; fishbone, meat, thymus, potato were present; catgut and fat disappeared. Cases 20 and 30, of Banti's disease, showed during the ascitic stage normal motility and good digestion. In Case 20 everything disappeared except thymus; in Case 30 everything disappeared except part of thymus and fat. Case 21, achylia gastrica and chronic enteritis, revealed during a period of improvement accelerated motility and pretty good digestion; everything disappeared except fishbone and potato.

Case 14, of sub-acute rheumatism, and Case 25, of acute nephritis, both afebrile, revealed normal motility and good digestion; everything disappeared except once a trace of fat. Cases 26 and 27, same patient, malaria complicated with severe anemia, showed somewhat retarded motility and poor digestion. Case 28 revealed normal motility and pretty good digestion; everything disappeared except potato and one-third of fat. Case 29, pneumonia, showed good motility and poor digestion; meat, thymus, fishbone, potato were present; catgut and fat had disappeared. Cases 31 and 32, of hypertrophic cirrhosis of the liver had normal motility and good digestion; everything disappeared except fat and thymus. Case 33, of diabetes mellitus and Case 34, of splenic leukemia, revealed good motor and digestive functions. In the case of leukemia, however, half of potato and fat was present.

Tables 1 and 2 show clearly that by means of the bead test a thorough insight into the relations of the functions of the digestive apparatus is obtained. The gravest impairments are met with in the chronic diseases of the

TABLE 2.—CASES EXAMINED WITH THE MODIFIED DIGESTIVE CAPSULE (BEAD STRING).

No.	Name.	Disease.	Bead string, when found.	Result.
1	R.	Dilatatio ventriculi; hyperchlorhydria.	After 42 hours	Everything disappeared; only trace of fat present.
2	P.	Ulcus v.; hyperchlorhydria	After 42 hours	Everything disappeared; trace of thymus present.
3	Mrs. T.	Hyperchlorhydria; sitophobia	After 42 hours	Everything disappeared except thymus.
4	M.*	Trichinosis; afebrile period	After 42 hours	Everything disappeared.
5	E. L.	Ulcus v.; anemia gravis (post-gastroenterostomy.)	After 24 hours	Catgut, fat disappeared; meat, fishbone, thymus undigested (nuclei little changed); potato 2/3 present.
6	G.	Dilatatio v., hyperchlorhydria; spastic constipation.	After 112 hours	Everything disappeared.
7	M. G.	Gastritis chr.; atonia coli.	After 65 hours	Everything disappeared, except 1/3 mutton fat.
8	Mrs. O.	Carcinoma v.; achylia gastrica	After 45 hours	Catgut and fishbone disappeared; meat and potato ½ present; fat and 1/3 thymus present.
9	Mrs. A.†	Achylia gastrica; anemia perniciosa.	After 17 hours	Fishbone, catgut, meat, thymus undigested; trace of fat present; potato 2/3 present.
10	B.	Enteritis chronica; profuse diarrhea (during an exacerbation).	After 14 hours	Meat, potato, fishbone unchanged, catgut trace present; fat disappeared; thymus unchanged (nuclei indistinct).
11	B. (same as No. 10)	Enteritis chr.; profuse diarrhea (during amelioration).	After 26 hours	Everyhing disappeared except potato; about half present.
12	J. S.	Dysenteria chr.; splenic tumor during an exacerbation.)	After 15 hours	Everything present.
13	J. S. (same as No. 12)	Dysenteria chr.; splenic tumor (during amelioration).	After 14 hours‡	Catgut, fishbone, meat disappeared; fat present, potato and thymus 2/3 present.
14	P. B.	Profuse diarrhea; enteritis acuta	After 16 hours	Everything disappeared except fat and thymus. ½ present (nuclei disappeared).
15	A. G.	Hydrocephalus; periodic vomiting (in the free interval); enteritis chr.	After 16 hours	Catgut, fishbone, meat disappeared; fat, potato, thymus still present.
16	Mrs. C. D.	Gastritis chr.; enteritis tuberculose.	After 42 hours	Catgut, meat, fat, thymus (entirely) present; fishbone and potato disappeared.
17	R.*	Dilatatio v; atonia coli.	After 18 hours	Catgut, fishbone, meat, fat disappeared, thymus, trace present (nuclei disappeared); potato entirely present.
18	M.	Gastroenteritis toxica (caused by tainted meat during the febrile period.	After 51 hours	Everything disappeared except thymus, ¼ still present.
19	N.	Gastroenteritis toxica (caused by tainted meat during the febrile period). Severe case.	After 64 hours	Fishbone, meat, thymus, potato present; catgut and fat disappeared.
20	S.	Banti's disease (in the ascitic stage).	After 24 hours	Everything digested except thymus (nuclei disappeared).
21	W.	Achylia gastr.; enteritis chr. (during improvement).	After 12 hours	Everything disappeared except fishbone and potato.
22	M.*	Trichinosis.	After 22 hours	Everything disappeared except trace of fat and fish-bone.
23	B.†	Trichinosis (?)	After 21 hours	Everything disappeared except thymus (nuclei disappeared.)
24	H.†	Polyarthr. rheum., (subacute without fever).	After 22 hours	Everything disappeared.
25	B.	Nephritis acute; hemorrhagica (without fever).	After 24 hours	Everything disappeared except trace of fat.
26	J.	Malaria tertiana; spleen and liver enlarged; severe anemia.	After 44 hours	Meat fishbone, thymus, fat present; catgut and potato disappeared.
27	J. (same as No. 26)	Malaria tertiana; spleen and liver enlarged; severe anemia (a week later).	After 60 hours	Everything present except fat and potato.
28	P.	Malaria; splenic tumor (in afebrile stage).	After 40 hours	Everything disappeared except potato and fat. 1/3 present.
29	H.	Pneumonia (during the febrile period).	After 26 hours	Catgut and fat disappeared; meat, thymus, fishbone present; potato 1/3 per cent.
30	A. H.	Banti's disease (in the ascitic stage).	After 48 hours	Everything disappeared except thymus and fat (partly present).
31	D.	Cirrhosis hepatis hypertrophica; dilatatio v.	After 26 hours	Everything disappeared except fat (trace) and thymus ¼ present.
32	Mrs. S.†	Cirrhosis hepatis hypertrophica; myocarditis chr.	After 16 hours	Everything disappeared except thymus (¼) and fat (entire) present.
33	B.	Diabetes mellitus.	After 40 hours	Everything disappeared except trace of thymus present.
34	Miss W.*	Leukemia splenica.	After 17 hours	Everything disappeared except potato (1½) and fat present.

* One teaspoonful Carlsbad salts. † Two tablespoonsful castor oil. ‡ In ninth stool.

intestine, as well as in severe cases of anemia. Finer grades of digestive disturbances referring to certain single food substances (as, for instance, to starch or fat) are, likewise, easily recognizable by this test. It will, however, require a long continued study of these relations in a large number of cases before making use of them diagnostically.

One point of the tables still requires special attention, namely, the behavior of catgut and fishbones. Until recently the opinion prevailed that these two substances are digested by the gastric juice only, but not in the intestine. With reference to catgut, I have already stated previously,[3] that it may be digested in the intestine also, as demonstrated by cases of achylia gastrica, in which the bead test occasionally shows the disappearance of the catgut. In the above two tables, likewise, this fact is again met with. As regards fishbones, I always had found them to reappear in achylia gastrica in

3. Loc. cit.; also "Remarks on Sahli's Desmoid Test of the Stomach," THE JOURNAL A. M. A., May 12, 1906.

my previous investigations. In my new cases, however, a disappearance of the fishbone occurred twice in achylia gastrica (Table 1, Case 16, and Table 2, Case 8). These facts show that fishbones, although rarely, under certain conditions, may be digested in the intestine also.

AUTHOR'S EXPERIMENTS.

It appeared of interest to investigate the behavior of catgut and fishbones by further experiments. In previous investigations I once met with a patient suffering from hyperchlorhydria, in whose stomach a catgut and a fishbone bead were suspended on a silk thread for four hours (commencing right after luncheon). After withdrawing these two beads from the stomach it was found that the fishbone had disappeared, while the catgut, swollen, was still present as a whole. Considering the easy way catgut is dissolved in normal gastric juice, this fact was astonishing. In order to explain it I thought of the possibility that a too highly acid gastric juice retards the digestion of catgut. In order to decide this question, the following experiments were made:

EXPERIMENT 1.—Jan. 6, 1906, 10 a. m. One catgut and one fishbone bead each are placed in the gastric filtrate of L. (acidity = 92, free HCl = 72) and that of H. (acidity = 40, free HCl = 20) and kept at blood temperature.

11:30 a. m.: L. Fishbone knot opened, but fishbone still present. H. Fishbone knot as well as catgut knot unchanged.

1 p. m.: L. Fishbone has disappeared; catgut knot present. H. Catgut knot opened; fishbone has disappeared.

7 p. m.: Condition unchanged.

Jan. 8, 10 a. m.; Condition unchanged.

Jan. 9, 10 a. m.: L. Catgut knot opened.

This experiment evidently shows that too high an acidity of the gastric juice greatly retards the disappearance of the catgut knot. For in L. this took place after three days.

EXPERIMENT 2.—Feb. 26, 1906. C., an apparently healthy man, takes a capsule containing 2 catgut beads, with a mutton fat covering. The mutton fat serves the purpose of preventing the gastric juice from acting on the catgut. After 17 hours the two beads are found in the stool, still containing the catgut.

EXPERIMENT 3.—March 10, 1906. M. S., suffering from hyperchlorhydria, takes a capsule containing one catgut and one fishbone bead, both covered with mutton fat. After 24 hours both beads are found in the stool; catgut has disappeared; fishbone is present, unchanged.

EXPERIMENT 4.—June 26, 1906. A bead, with catgut, fishbone, and meat attached, is placed into a pure solution of trypsin (Fairchild), same as used hypodermatically, and kept at blood temperature.

June 27: All the three substances are present.

June 29: Catgut present, swollen, knot not opened; fishbone, knot opened; meat, present in traces.

Experiments 2 and 3 show that catgut is occasionally digested, and sometimes again not digested, in the intestine. Experiment 4 indicates that trypsin is apt to digest fishbone after a long continued action on it. As already mentioned, the possibility of the digestion of fishbones in the intestine was observed twice in patients with achylia gastrica. The conclusion, therfore, appears justifiable, that all food substances underlying changes in the stomach, may, under favorable conditions, become digested without gastric juice in the intestine.

Although the bead test is meant to ascertain, not so much the condition of gastric secretion, as the digestive capacity of the entire digestive apparatus, nevertheless, it would be of considerable value to prove in this manner without the use of the tube, the presence or absence of HCl. As can be easily seen from this paper the digestion of catgut and even of fishbones does not yet positively demonstrate the presence of gastric juice. I have tried to attach to the beads a red congo thread, which, as is well known, turns blue in free acids, in order to ascertain in this manner the presence of HCl. This procedure, however, failed, because the alkaline secretion of the intestine always changes the blue color of the congo thread into a red one. It thus, always returns red, no matter whether HCl is absent or present. If we could have an indicator for free HCl, which would assume a stable color not changeable by alkalies, we could make use of it for our purpose. I am, at present, working on this problem and shall report on it as soon as I shall have reached some definite results.

PREPARATION OF FOOD BEADS.

In conclusion, I will give detailed instructions with regard to the preparation of the test-food beads and also their administration:

1. *Catgut.*—Take raw catgut 00, draw it through the bead and tie the ends together.

2. *Fishbone.*—As the ordinary fishbone breaks, when tied in a knot, it is best to use the long bones from a pickled herring. The bones are washed in water first, then rubbed off with cloth. Then they are kept in water in a bottle. When wanted they are taken out of the water, drawn through the bead and tied in the same manner as the catgut.

3. *Meat.*—The muscular fibers of raw beef are cut lengthwise in the direction of the fibers and in pieces 5 to 6 cm. long, 1 cm. thick. These are preserved in a bottle of alcohol. Take a piece of meat from the alcohol bottle, tear off lengthways a muscular fiber 2 to 3 cm. long, 1 mm. thick, draw the same through the bead and allow the ends to overlap; next tie the ends fast together over the bead with a silk thread.

4. *Thymus.*—Raw sweetbread from the calf is cut in cubes and preserved in alcohol. For use lay a small piece about 2 c. mm. within a small square of gauze, fold the four ends of the gauze together and tie with thread, so that the small piece of thymus lies enclosed as in a purse; then fasten the gauze purse to a bead.

5. *Mutton Fat.*—Beads with a large opening, (1.5 to 2 mm. diameter) should be dropped in hot rendered mutton fat and after a minute taken out with a forceps and placed in a vessel of cold water. This congeals the fat. Then they are laid on a piece of pure filter paper. Allow them to remain on same until thoroughly dried. The beads can thus be kept as long as desired and are ready when wanted for use.

6. *Potato.*—Cook a piece of potato with peel on in boiling water two minutes. Take the same out of the water and cool it off. Now cut a small piece of potato with peel 1 cm. long, 0.5 cm. wide, and 1.5 to 2 mm. thick and attach it to a bead.

Two and more food substances may be attached to one bead. For instance, catgut and fishbone, meat and thymus. The test beads can all be kept on hand with the exception of the potato, which always must be freshly prepared. Meat and thymus beads are best kept in alcohol. Catgut, fishbone and fat beads are simply preserved dry.

Of late I have used the double substance beads and tied them together with a string. The bead string is placed in a gelatin capsule[4] and so administered best shortly after a meal.

4. The digestive test capsule (containing the bead string with the food substances) may be obtained at Elmer and Amend, 205 Third Avenue, New York City. It must be used, however, within a few days after its delivery.

Indications and Contraindications for the Application of the Bead Test.—The bead test should be used in all cases in which a more thorough knowledge of the functions of the digestive apparatus is desired.

The bead test is not permissible in all pronounced stenoses of the digestive tract, stricture of the esophagus, stomach and intestine.

Special Articles

THE COLLECTED WORKS OF CARL WEIGERT.*

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The publication of the collected works of the great pathologic anatomist, Carl Weigert, is a notable event for the many persons interested in the progress of discovery and thought in medicine, for between the covers of these carefully edited volumes may be found the records of methods of investigation, of observations and of generalizations that are exerting a deep and lasting influence on medical science. This influence is the more remarkable because it emanates from a man who was singularly modest and gentle, unapt to contend for the prestige of his views—a man who spoke his message to science not from the vantage-ground of the authority that belongs to high academic rank but from the more obscure and independent focus of an unpretentious laboratory without university connections. So intimate is the relation between the character of this man and the work which he did that it seems fitting to sketch, in a few words, his life and personality before undertaking to review his contributions to biologic science.

A SKETCH OF HIS LIFE.

It was the small Silesian town of Münsterberg that in 1845, gave Carl Weigert to the world. Within a decade the same district gave Weigert a cousin destined to develop great gifts as an investigator and to be his sympathetic and helpful colleague through life—Paul Ehrlich. In childhood Weigert showed studious habits and exceptional filial affection, but it does not appear that he early gave indications of his genius as an investigator. During the medical school period he developed a taste for research and had the good fortune after passing the state examinations to be associated with Virchow as his amanuensis. He now came under the influence of the physiologist, Heidenhain, and later worked with Waldeyer, who had himself been a pupil of the great vitalistic physiologist.

The Franco-Prussian War broke rudely into Weigert's studies, but his experience as surgeon to his regiment much widened his view of life. In later days he loved to tell of his military adventures during the seige of Paris and of his subsequent visit to England. During the years immediately following the war, Weigert gave considerable attention to clinical medicine in the Breslau Clinic and this education served him well in later life, when, with wonderful skill and insight, he indicated to the physicians of Frankfurt, in his talks in the dead-house, the relations between the pathologic findings and the clinical phenomena. It was during this early Breslau period that Weigert made his admirable investigations of the eruption in smallpox, in connection with which he developed the conception of cell death or coagulation necrosis and originated methods of staining bacteria in tissues. This research was rich in its yield of new methods, facts and ideas worked out by the young investigator.

But Weigert at this time made little impression on pathologic anatomists, not because his investigations were not original, but because, as Lichtheim says, they were too original. His work on smallpox, nevertheless, brought him to the notice of the great experimental pathologist, Julius Cohnheim, who soon took Weigert as his assistant at Breslau. The illness of the master threw a large part of the daily work of the institute and of the dead-house on Weigert, who soon developed under the critical eyes of his teacher into a pathologic anatomist possessed of superior technic and objective criticism. One might have supposed that Cohnheim's genius would have led Weigert into the growing and promising field of experimental pathology. There are two reasons why this proved not to be the case. Weigert early attained an individual view of medicine and of the methods most likely to advance it. He believed that pathologic histology might be materially advanced by the development of improved methods of staining, and from the outset was so successful in devising valuable histologic methods that he did not care to turn aside to join Cohnheim in his experimental studies. That Weigert's great master helped him by encouragement and suggestion is certain, but it is equally true that the young pathologist worked out his own salvation in all that pertained to histology. His independence extended still further and was early reflected in his well considered views of general biologic laws. That Cohnheim was influenced by the original thought of his pupil can not be doubted. For example, it appears to have been Weigert's influence that led the master, after having met with failure, to repeat with success his experiment on the inoculation of tubercles. But the strong individuality of Weigert as an original worker was not the sole obstacle to following the paths opened by the great experimentalist. A certain innate tenderness of nature, quite unmixed with false sentiment, gave him an aversion to experimenting on animals—an aversion similar to that which made it impossible for Pasteur to do vivisection. Rieder tells us that the rabbits in the Senkenberg Institute led an enviable existence, for when they came in contact with their master it was to share his mid-day meal.

When Cohnheim, in 1878, was invited to fill the chair of pathologic anatomy at the University of Leipsig, Weigert went with him as extraordinarius, a position which he filled until the death of the master, in 1885. It was during this period that Weigert made some of his best contributions to pathologic anatomy; and perhaps no work of his has had a wider influence on the progress of medicine than the discovery in 1882 of a method by which the medullary sheaths of nerves can be sharply differentiated from the axis cylinder. On Cohnheim's death, Weigert undertook the duties incidental to teaching pathologic anatomy at the Senkenberg Institute in Frankfurt. Here, in the course of nearly twenty years' tenure of the directorship of the institute, he quietly continued his admirable researches in pathologic anatomy and placed many young investigators under an enduring sense of gratitude for the inspiration gained from his guidance.

Although the Frankfurt period was one of happiness for Weigert he never wholly recovered from the disappointment of failing to succeed Cohnheim in the professorship at the University of Leipsig, and throughout his life the failure caused him hours of depression. Weigert knew, what was equally well known to the best qualified judges, that he was the person best fitted to fill the chair vacated by Cohnheim, despite the fact that he was not an experimental pathologist. The thought that his colleagues had rejected him, very largely for the reason of his being a Jew, was a standing offense to his sense of justice. That his great merits were really in a measure recognized by members of the Leipsig faculty seems probable. They offered him a public call to the university on condition that he would not accept it—a proposition which naturally proved highly distasteful to Weigert. It is an indication of the superior nature of the man that in a manuscript dealing especially with the methods of making appointments in universities, found after Weigert's death, this difficult subject is dealt with in a thoroughly objective and judicial way, without the slightest intrusion of personal feeling.

Weigert resembled his great predecessor in pathologic anatomy, Virchow, in not being a good teacher for the man of average ability and poor training. He had none of the didactic ways of the schoolmaster and could not talk for

* Including a review of the book published with the coöperation of Ludwig Edinger and Paul Ehrlich and edited by Robert Rieder. In two quarto volumes with three lithographic plates. Pages 584 and 744. Price, 50 marks. Berlin: J. Springer, 1906.

artistic effect. It was thus fortunate that in Frankfurt he was not expected to give instructions to beginners in medicine. The special students who came to his little laboratory prepared to do serious work found that Weigert possessed, in the highest degree, the power of intellectually stimulating others and of making their work fruitful. His influence as a teacher extended far beyond the field of medicine and deeply affected the philosophic outlook of many a student. The persons who came into close contact with Weigert recognized that the society of the joyous yet earnest man was ever an education and a delight.

As an investigator, Weigert belongs in a select group of deliberate, careful workers, who regard a problem calmly and from every side while bringing to bear extraordinary powers of analysis and a high degree of ingenuity in overcoming technical difficulties. The manner in which he developed his intricate methods of staining shows his capacity for grasping principles and applying them to special ends. His studies of inflammation and of new growths reveal the constructive philosophic mind, which derives its highest satisfaction in the search for fundamental laws in the midst of a bewildering maze of facts. Weigert's mind was one that advanced step by step and took few risks. His mind was almost too well ordered to lead him into the experimental ventures that produce the most strikingly original results. He never published until he was satisfied that he had done the best work of which he was capable, and when he said to one of his pupils in 1887, "One can never publish anything late enough," he gave the clue to his attitude toward research. In all that he did, Weigert had in mind soundness and conscientious performance. The extreme of this tendency sometimes had the detrimental effect on his work that may come from an exaggerated conscientiousness. For example, he was so anxious to perfect the reliability of his neuroglia stain that he let many more important subjects rest while he pursued an end which he could hope to attain only by a large admixture of good fortune with intelligent effort. Thus he tended at times to grow unproductive. In the admirable critical reviews which Weigert wrote, one finds the same conscientious performance as in his research work and the same interest in the perception of fundamental principles. The reviews on chemotaxis, on new theories of heredity and on antitoxin immunity, are cases in point and all bear the imprint of an original mind.

Weigert was a man of medium stature, with a large, well-shaped head. In his later years he was slightly inclined toward corpulence. His large brown eyes were beautiful, expressing gentleness and great intelligence. His sympathetic, open and joyous nature, which gave him interest in all kinds of human endeavor and all sorts of people, made him greatly liked. He mixed freely with scientific and practical men of all kinds. He often amused his more intimate friends with his powers of ventriloquism and mind-reading, but his greatest social gift lay in a rare talent for telling stories full of a naive humor and kindliness.

Up to the time of his sudden death, from coronary thrombosis, he enjoyed good health and remained steadfastly at work. As his body lay on its bier there stood filtering in the laboratory a solution designed to improve the neuroglia stain. In the last years of his life Weigert devoted much thought to the pathogenesis of new growths and it was his intention to embody his views in a publication dealing with the subject from the standpoint of the laws of cell development. He was deeply interested in De Vries' great work on Mutation and believed it shed important light on some questions connected with the aberrant growth of animal cells. One of the reviewers visited Weigert in his laboratory not long before his death and found him sitting on a high stool with legs folded under him tailor-fashion, perusing De Vries'. "I read this work," he said, "over and over again. Parts of it I find very difficult to understand because it is so technical, but I do not wish to lose a line of it or miss an idea, and so I stick to it."

Despite his many and great contributions to medical science, Weigert in his later days had periods of depression in which he suffered great discouragement in regard to his capacity for work. He felt his powers waning and imagined his researches to be unimportant. On one occasion, when asked about his work he said, "I am working away at the old things—small, insignificant things. I realize that I can not compete with my younger colleagues. Look at my cousin Paulus (meaning Ehrlich) and his immunity work. How can I keep up with that? Then again this modern chemical pathology which requires so much special training. It is all right for Paulus with his extraordinary memory for those hexagons (benzene ring derivatives), but I can not do it."

The attitude of the universities toward Weigert doubtless contributed to his despondency and even made him at times doubt somewhat his powers, his knowledge and his worth. During the period of nearly twenty years following Cohnheim's death he did not once receive a university call—a fact difficult to understand when one realizes how greatly his figure towers above nearly all contemporary pathologic anatomists. He sought neither fame nor honors, but it was hard to be slighted for men of clearly inferior capacity. It is probably true that the scant appreciation shown him by the faculties was in part owing to lack of forcefulness and will power in certain directions. Rieder aptly says of him: "He had no idea how one makes a career and how necessary it is to-day to associate one's own advantage with that of others." Weigert clearly had the amiable faults of the over-sensitive idealistic student whose modesty makes it impossible for him to appraise his own worth.

In 1904 Weigert was looking forward with eagerness to a visit to the United States, to "the land of unlimited possibilities," as he liked to call it. It was expected that he would lecture at the Johns Hopkins Medical School on certain topics in general pathology on which he had long pondered. It is certain that he would have been enthusiastically received by his many friends and pupils and the visit would surely have helped him to throw off his doubts as to his own merit. "It will bring fresh wind to his sails," said his cousin, Ehrlich, in speaking of the proposed visit. But Fate willed it otherwise. In the summer of 1904, at the close of a Sunday agreeably spent with his friends, Weigert retired to his room to read, as was his wont. The next morning his lifeless body was found. He had apparently had no premonitions of what was impending. Indeed, during the last days of his life his companions had observed with pleasure a return of the buoyancy of spirit that had characterized his earlier days.

The death of Carl Weigert was in every sense premature. Through it humanity lost a singularly simple, noble spirit and the science of medicine was robbed of one of its greatest lights.

WEIGERT'S WORKS.

In these two handsome volumes, Weigert's works fill 1,328 pages, which are preceded by a preface and 140 pages devoted to a sketch of the master's life, tributes to his services in neurology and histology by Edinger and Ehrlich, and a chronologic list of Weigert's scientific publications in which reference is made to 97 titles.

It would be a hopeless task to attempt a detailed review of this rich collection. It is possible merely to select certain of these works for particular mention and this may be done almost at random, where all the material bears the marks of deep study and careful exposition. The style is exceedingly lucid and on the whole simple, but so concise and idiomatic as to render translation into exactly equivalent English a matter of great difficulty.

Weigert's works are grouped under six heads: "Bioplastik," "Pathologic Anatomy," "Pathologic Histology," "Bacteriology," "Neurology and Microtechnic," and "Varia;" the last including an obituary of Julius Cohnheim, his master, an article on mind-reading and some remarks referring to the establishment of an institute for experimental therapy in Frankfurt. This division does not follow the chronological order, but brings together those contributions which are naturally related to each other. In some respects the articles included under the collective title "Bioplastik" are of particular interest because they serve admirably to illustrate the breadth of thought manifested by Weigert throughout his writings and his analytical, critical and constructive abilities.

A striking example of the philosophical inclination of Weigert's mind to unify, systematize and correlate the knowledge he possessed is contained in the 186 pages bearing the caption "Attempt at a general pathologic morphology based on the normal," which is the seventh and final division of that part of the whole work designated as "Bioplastik." This study comprises fifteen chapters, only five of which may be regarded as completed, in at least a tentative form, to the satisfaction of the author, for in an interesting foot note of the editor's there is mention of Weigert's characteristic habit of repeatedly revising his writings. An enumeration of these chapters is all that is permitted by our space, but it will suffice to indicate the interest and value of this contribution, as well as the methodical way in which Weigert developed his ideas:

1. An Introduction and Plan.
2. Causality of Vital Phenomena.
3. General Considerations Concerning Function and Matter.
4. Origin of Living Matter.
5. Evolution and Epigenesis.
6. Idioplasm.
7. The Non-idioplastic Germ-Constituents.
8. The Multiplicity of the Germ-Potentialities in Phylogeny and Ontogeny.
9. The Alleged Totipotentiality of the Idioplasm of Somatic Cells.
10. Remarks on the Nature of the Changes in the Idioplasm During Ontogenesis.
11. External Conditions Activating Latent Idioplastic Rudiments.
12. Bioplastic Phenomena. Kinetic and Potential Bioplastic Energy.
13. Regeneration.
14. The Obstacles to Growth Concerned in Regeneration.
15. Idioplastic Activities in Regeneration.

We have selected this study from among those classed as bioplastic, for more detailed notice, partly because it is the final word from this liberal thinker upon these subjects, partly because it is a posthumous work, not published elsewhere. The other works placed in this category by the editors, with the dates of publication, are:

1. Inflammation, 1880 and 1886.
2. Vital Phenomena of Cells Under Pathlogic Conditions, 1886.
3. New Problems in Pathologic Anatomy, 1896.
4. New Theories of Heredity, 1887.
5. Recent Works on the Theory of Antitoxic Immunity, 1898.
6. Chats on the Methods of Research in Natural Science, 1898 (first published after Weigert's death).

At the risk of exceeding the limits proper to a review, we can not forbear making brief mention of the work on inflammation. The origin and foundations of our conception of this varied process are subjected to a critical examination based on an historical study of the modifications that conception has passed through, as insight into biologic processes has developed. This constructively critical survey of past achievements leaves the wholesome impression on the reader's mind that knowledge is still in process of evolution and that the final word is not yet uttered. Having, nevertheless, classified and defined in this manner the known factors constituting our conception of the inflammatory process, the author analyzes and classifies its various manifestations in a characteristic and exceedingly lucid exposition of different concrete examples. No one can read such a broad and logical treatment of a complex subject without a refreshing sense of renewed inspiration.

The pathology of tuberculosis is discussed in thirteen articles, the first appearing in 1877, before the demonstration of the tubercle bacillus, and the last published in 1903. These studies, therefore, embrace the most interesting epoch in the development of knowledge concerning this disease and even in those articles which now have chiefly an historical interest one can not but admire the acute and thorough observation and the close and suggestive deductions of the writer. There are also several valuable papers on tumors, malformations, etc.

One of the subjects to which Weigert devoted much productive study is that of coagulation, both in the blood and tissues, and in these volumes will be found his successive papers elaborating the conception of coagulation necrosis and the technic with which the presence of fibrin and similar substances may be demonstrated by a differential stain. These articles afford another example of his patient effort to discover and define the essential facts and processes underlying biologic phenomena, and to make useful, conservative and guarded generalizations. One would be tempted, in this connection, to dwell upon Weigert's trained powers of imagination which led him to seek consistent hypotheses as an aid to research, were it not that the mere enumeration already made of the titles of the "Bioplastic" papers reveal this quality of his mind; a quality admirably blended with a critical judgment.

That Weigert was an expert histologist, hardly calls for mention. His services to that branch of medical science are well known. The studies of tissue-changes in coagulation necrosis rested upon this technical knowledge, but his widest influence in this direction was exerted by his elaboration of methods of staining with a view to identifying the various constituents of objects subjected to microscopic examination. His writings on these topics are embraced in the 345 pages included in the fourth and fifth divisions of this collection: "Bacteriology" and "Neurology and Microtechnic." The bacteriologic papers are not numerous and do not occupy more than 70 pages of a volume containing 774 pages. The first bacteriologic paper is one published in 1871 on the bacteria in the skin in smallpox. This paper is of interest as marking the first discovery of bacteria in tissues. Weigert shows his excellent judgment in this instance in not falling into the error of concluding that smallpox is due to the micrococci which he discovered in the lesions of this disease. The following paper is one on a mycosis in a newly born child and has to do with the coloration of bacteria. In 1881 Weigert published an important paper on the technic of microscopic investigations of bacteria in which he devotes special attention to methods of staining. Considerable space is devoted to methods of investigation of bacteria in sections. This communication also contains a section on the significance of the dyeing of bacteria. The author brings out here the importance of drying tissues with strong acetic acid or potassium hydroxid in order to render the bacteria capable of taking stains in those cases where they have failed to be readily colored. It is interesting to note that although Weigert considers the introduction of the anilin dyes as extremely important in detecting the presence of bacteria in tissues, he does not draw the conclusion that the failure to take up color necessarily means the absence of micro-organisms. In other words, he clearly recogni es that further experiments are likely to result in the discovery of methods which will render visible micro-organisms which remain untouched even by the greatly improved methods developed by himself.

In 1887 Weigert published a controversial paper of considerable interest dealing with the bacteria question. Although the doctrines for which he contests have long since been established, it is interesting to read this paper even at the present day as an example of searching criticism of the contentions of a writer named Hiller, who energetically contended that his negative results with the inoculation of certain bacteria constituted a proof that these and most other bacteria are innocuous. In the same year Weigert published a paper on glycerin as a method of distinguishing formed and unformed ferments. The bacteriologic section is completed by three papers relating to Obermeyer's spirillæ of recurrent fever.

The section dealing with neurology and microtechnic constitutes one of the most important portions of the volume, embodying, as it does, Weigert's extremely important and fundamental methods for the differentiation of tissues. This section contains the following papers: First, a paper on microscopic technic which deals with the subject of section cutting, certain improvements in the microtome introduced by Weigert and the coloration and impregnation of preparations. This paper was published in 1894. It is followed by one dealing with the histologic technic of the central nervous system, published in 1896. This constitutes an admirable historical review of the subject and contains much of interest to histologists of the present day. It discusses the method of Golgi at great length and in a critical manner. The second contribution to the histologic technic of the central nervous system is dated 1897 and deals in an exhaustive manner with the subject of staining the medullary sheath of a nerve fiber and with the principles concerned in such staining. The third of

this series of contributions on the histologic technic of the central nervous system is likewise dated 1897 and is devoted to the Marchi method. Then follow two papers dealing with the methods of staining fibrin. The first is dated 1887, giving Weigert's original method of selective coloration by means of anilin dyes. The difference between this method and that of Gram is very clearly brought out. This subject is brought up to date in a paper dated 1903, dealing again with the fibrin stain. These papers are followed by one dated 1898 giving Weigert's method of staining elastic fibers.

A section now follows which is devoted mainly to the papers of Weigert in which are presented his discoveries of methods of staining the medullary sheaths of the central nervous system. In 1890 Weigert brought out his extremely important method of staining the neuroglia structures of the central nervous system in man. His two papers dealing with this discovery are printed in this volume and are followed by a long contribution, of the utmost significance to histology, in which the normal human neuroglia is discussed from the historical standpoint and in the light of his own methods. This paper is dated 1895. Weigert's last contribution to the technic of the neuroglia stain was made in 1903, in which he treats of ways of improving his own, previously described, methods and also discusses similar methods for the study of neuroglia which have been developed by others. The rest of the volume is given up to papers of less importance. It should be mentioned, however, that among the papers which have been collected at the end of the volume is an extremely appreciative necrolog relating to Weigert's master, Julius Cohnheim. This paper was written in 1884. In the same year also was published a short discussion on the subject of mind-reading. The last contribution deals with the question of the establishment of an institute for serum investigation and experimental therapy in Frankfurt a-M., and will be read with interest by those who have followed the classical contributions that have come from this institute under the guidance of Ehrlich in the past nine years.

It was as a morphologist and resourceful microscopic technician that Weigert entered and left his impress on the field of bacteriology, and his services to neurology are of similar character. In fact, throughout his writings we find that the chief data underlying his work were morphologic. But he was pre-eminent in his ability to handle and verify these data. They inspired him to seek the significance of the changes in structure he was so capable of detecting, and this striving led him to his conception of vital phenomena. The chemical and physical aspects of pathology are but lightly touched on, and when considered at all are discussed mainly in reviews of the work of others. That Weigert was in sympathy with these more recent aspects of pathology can not be doubted, but he was too completely engrossed in the problem on which he was best fitted to work, to make notable contributions in these directions. His publications in the field of his choice are destined to become classics.

SOME FACTS ABOUT DIGESTIVE FERMENTS.

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INTRODUCTION.

The Council on Pharmacy and Chemistry, in the course of its work, found occasion to examine a number of articles widely advertised as digestants. A large proportion of these failed to come up to the claims which were made for them—a failure which might have been predicted, since these claims often involve impossibilities as absurd as that of hoping for the simultaneous action of an acid and alkali by mixing the two; in other words, they are examples of well-established incompatabilities. For the reason, however, that these preparations are advertised indicates that many physicians are overlooking these facts, relying probably on the presumed skill of the manufacturers and believing that nothing so worthless would be offered to them. In view of this misplaced confidence, the Council has thought it advisable to bring the facts to general attention.

MIXTURES OF FERMENTS IN LIQUID FORM.

Digestion, in the human organism, is carried on largely by the action of peculiar principles, ferments, secreted by the glands connected with the alimentary canal. These ferments are very powerful, in that they can effect profound changes in the foodstuffs, changes which the chemist can only imitate by processes which would be destructive to the human organism. On the other hand—and this is very important—organic ferments are very delicate bodies, which can only exercise their actions under favorable conditions, and which are either inhibited or destroyed by very slight departures from these. They are quite as sensitive to reagents as proteids or toxins, and reagents which injure the one are very apt to injure the others. Pepsin and pancreatin are used for the very purpose of digesting proteids, and they are also destructive to toxins; it would, therefore, be rather strange if they did not act on one another, resulting in mutual destruction. Strong acids and alkalies are also most injurious to ferments. In very dilute solutions they are favorable to some, unfavorable to others. Pepsin and pancreatin are opposite in this respect, and a reaction suited to the one will destroy the other.

These facts have long been known in a general way, and they are fully confirmed in the most recent authoritative work[1] on the subject.

The investigators proceeded by first mixing the ferments and reagents and keeping them at body temperature, generally for six hours. After this exposure, the quantity of ferment which had escaped destruction was estimated by bringing the mixture to the reaction most favorable to this ferment and adding fibrin, egg albumin solution, starch, etc., according to the nature of the ferments.

The following brief citations illustrate the nature of the results:

EXPERIMENTS ON TRYPSIN (PANCREATIN).

(a) Effect of Hydrochloric Acid:

In these experiments the trypsin (pancreatin) was submitted to the action of hydrochloric acid of varying strengths for a period of six hours. Then the liquid was rendered alkaline, and now the time determined which was required to digest a certain amount of fibrin.

Per cent. of HCl in the preliminary digestion of six hours.	After making alkaline the digestion of fibrin is practically completed in.
0.000	3 hours.
0.056	5 hours.
0.112	7 hours.
0.280	8 hours.
0.560	No digestion in 8 hours.

When it is remembered that the normal acidity of gastric juice generally corresponds to about 0.2 per cent. HCl it will be seen that an acidity of one-fourth of this figure weakens the activity of the trypsin so that it requires about double the time to effect digestion; while exposure to an acidity but little above that of the gastric juice destroys it altogether.

(b) Effect of Pepsin:

Composition of the mixture for the preliminary digestion of six hours.	After making alkaline, the digestion of fibrin is:
Trypsin and water	Practically completed in 3 hours.
Trypsin and 0.112 per cent. HCl	Starts in 5 hours; one-half is digested in 6 hours.
Trypsin and 0.112 per cent. HCl and pepsin	No digestion in 29 hours.

1. Wroblewski, Bednarski and Wojczinski: Hofmeister's Beitr., 1901, I. 289.

It is seen that the pepsin has completely destroyed the trypsin, even when the acidity was very slight.

EXPERIMENTS ON PEPSIN:

Composition of the mixture during the preliminary digestion of six hours.	The mixture is then brought to an acidity of 0.2 per cent. HCl and egg-albumin solution added. The quantity of the coagulable albumin remaining after digestion is:
(a) Pepsin and boiled trypsin	0.1070
(b) Pepsin and boiled trypsin and 0.01 per cent NaOH	0.1308
(c) Pepsin and unboiled trypsin	0.1410
(d. The albumin solution, without digestion, contained	0.1395

Comparison between (a) and (b) shows that the very low alkalinity of 0.01 per cent. NaOH has destroyed most of the pepsin; while the trypsin (c) has destroyed it completely.

EXPERIMENTS ON DIASTASE:

The preliminary digestion lasted 9 hours. The mixtures contained:	Starch was then added and digested for 8½ hours. The digestion is estimated by copper reduced by the solution:
(a) Diastase and water	0.2854
(b) Diastase and NaOH 0.03 per cent.	0.1945
(c) Diastase and NaOH 0.1 per cent.	0.0010
(d) Diastase and HCl 0.009 per cent.	0.0121
(e) Diastase and HCl 0.02 per cent.	0.0089
(f) Diastase and trypsin and 0.03 per cent NaOH	0.1511
(g) Diastase and pepsin and water	0.1836
(h) Diastase and pepsin and 0.009 per cent HCl	0.0074
(i) Diastase and invertin and water	0.3134

The comparison of (a), (b) and (c) shows that 0.03 per cent sodium hydrate produces considerable destruction of the diastase; with 0.1 per cent. of sodium hydrate the destruction is practically complete; (d) and (e) show the very deleterious effect of acids; even with 0.009 per cent. (equal to 1/20 that of the gastric juice), the destruction is almost complete; (g) and (h) show the severe destructive action of pepsin; invertin (i) has no effect; comparison of (b) and (f) shows that trypsin also is not very deleterious. Of other digestive ferments, rennin is not destroyed by pepsin; invertin is not injured by pepsin, trypsin and diastase, but is weakened by acids and alkalies.

To recapitulate these results relating to the ferments which are most commonly administered for therapeutic purposes:

At a temperature of 40° C. and in six hours:

Trypsin is greatly injured by 0.056 per cent. HCl, and destroyed by 0.56 per cent. It is completely destroyed by pepsin in 0.112 per cent. HCl.

Pepsin is largely destroyed by 0.01 per cent. NaOH, and completely destroyed by trypsin.

Diastase (in nine hours) is considerably injured by 0.03 per cent. and destroyed by 0.1 per cent. NaOH. It is almost completely destroyed by 0.009 per cent. HCl; it is greatly weakened by pepsin even in neutral solution, but it resists trypsin fairly well.

MIXED SOLUTIONS OF FERMENTS VALUELESS.

These conclusions illustrate strikingly the absurdity of mixing these ferments in solution: If the solution is acid (as in the Elixir Digestivum Compositum of the National Formulary and most of the proprietary digestant mixtures), the trypsin and diastase will be destroyed; if it is alkaline, the pepsin and diastase will disappear, and if, as a last resort, it is made neutral, the pepsin will destroy the diastase, and the pepsin, in its turn, will be digested by the trypsin. At room temperature the process will be somewhat slower than in the thermostat, but the final result, in a very short time, will be the same.

This must be the case from the nature of the ferments, and the actual analytical results of the Council, as quoted in its report, only furnish an added proof of these firmly established facts. The busy practitioner may be excused for not having these data always in mind, but ignorance of these matters on the part of manufacturers is scarcely conceivable. Indeed, the letters received by the Council show that the manufacturers are familiar with the worthlessness of these mixtures, and the most reputable houses only manufacture them in response to the popular demand. Reform must, therefore, come through the medical profession, whose members should refrain from prescribing these mixtures.

(To be continued.)

Clinical Notes

FURTHER STUDY OF THE NEW INFECTIOUS DISEASE.

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I have already[1] reported 8 cases of an infectious disease hitherto undescribed in text-books or the literature. Since contributing that study, through the kindness of the authors, I have found two articles which report an analogous fever.[2] These reports, however, are very obscure and incomplete. They make no mention of important tests in order to exclude the various well known fevers, typhoid, etc. The cases of Dr. Sheffield occurred among children and in epidemic form. There are many points in common both in Dr. Sheffield's and Dr. Happel's cases, yet the data are so very much obscured and faulty that more complete reports must be made before these cases can be all identified as the disease reported here.

Through the kindness of many of my colleagues, I am enabled in the following study to report on eleven histories of similar cases in addition to the nine of my own.

This disease may be defined as an acute infection of sudden onset and unknown bacterial origin. It is characterized clinically by fever, constipation, absence of blood parasites, agglutination with the usual bacteria, rose spots, enlarged spleen, and tympanites. It lasts from ten to twenty days. Its pathology is unknown; there have been no deaths. The history of analogous fevers has been called to my attention by Dr. T. J. Acker of Croton-on-the-Hudson. He says that in forty years' practice he has frequently found this fever and "together with Wilson, Da Costa, John Mason Good, and other great writers" attributes "this simple continued fever to solar heat, great fatigue, excitement, surf bathing, eating crabs, etc."

This disease differs from febricula or ephemeral fever as described by Osler. He mentions this as lasting from two to four days; "in some instances it may continue for a week." Weil's disease has as its striking feature a marked catarrhal jaundice, enlarged spleen and liver. None of these features is present in my cases or their analogues. There is absolutely no similarity between these cases and miliary fever, which occurs with sweats and is very fatal.

According to the correspondence I have received on the subject the disease seems to prevail throughout the United States. Members of the American Medical Association have written to me and described similar cases from Missouri, New York, Connecticut, Virginia, California, Georgia, Kentucky, Pennsylvania and New Jersey.

ETIOLOGY.

Of the 20 cases of which I have notes, 8 occurred in girls and 12 in men. The ages ranged from 16 in the

1. THE JOURNAL A. M. A., 1906, Aug. 11, p. 433.
2. Sheffield, H. B.: Am. Med. Surg. Jour., Dec. 26, 1896; also Happel, T. J.: THE JOURNAL A. M. A., July, 1906.

youngest to 36 in the oldest; 18 were under 28; 12 between 16 and 25. Only three of the twenty had been out of the city on vacations. The others had not left the city within six months.

This disease seems to prevail in the same months as typhoid, malaria and hay fever. No cases have been reported to me, however, for December, January, February, March, April or May.

Cultures made from the blood of three patients yielded no growths. Agglutination tests with young cultures of typhoid and paratyphoid bacilli were negative. Cultures made from the stools have so far proved unsatisfactory.

Very little light could be obtained on the origin of the infection. Some of the patients had never drunk unboiled water or milk. None of the cases could be positively traced to any definite source. They seem to be endemic, but there is so far no evidence that any epidemics occur. No banquets, picnics, or sausage luncheons preceded them.

Although there is no morbid anatomy to describe, the mode of infection seems evidently to arise by way of the intestinal tract. The thick white, slightly moist fur on the tongue, the bad odor to the breath, the rigid constipation, all indicate this. The spleen and liver were at no time palpable in any of the cases. This is important in excluding paratyphoid and typhoid.

SYMPTOMS.

There was no way to ascertain the incubation period from the histories. The onset is markedly acute in all cases. From twelve hours in the shortest to three days in the longest; most of them were twenty-four hours. Epistaxis was not present in any of this series. Constipation was a conspicuous symptom in every case. There are no records of chills or sweating. Six of the twenty patients complained of headaches; none of them had abdominal tenderness at any time. Three of the nine walked into my office with temperatures of 104. They felt perfectly well the day before.

The pulse exhibits a striking peculiarity. It is, if anything, even slower than that of typhoid. The rate varies from 60 to 90; in seven of my cases it never rose above 80. The volume is full, rate regular, quality strong, and tension usually fair. Three exhibited dicrotism.

The tongue is covered with a rough, white fur, in most cases moist. A fetid odor was noticeable in several patients. The fever is a rapidly ascending one and may reach 105.4 without delirium or nervous symptoms. No characteristic eruption whatever appears in the course of the trouble. Herpes was present in two patients.

Even in the second and third weeks of the disease no change occurs in the pulse, character or rate. The temperature works gradually downward, and the morning remissions finally become permanent. Tympanites and abdominal tenderness are never present. In this series, cough and expectoration occurred only once. It disappeared a week before the afebrile period began.

In Case 6 Dr. T. R., after a long struggle with the infective agent, finally some three weeks afterwards passed through a typical typhoid attack. Whether the preceding illness was something else or only a battle between his native immune bodies and the typhoid bacilli is impossible to determine.

Meningeal or nervous symptoms were entirely absent. The only pulmonary signs were those of bronchitis in one case.

One case began with an acute attack of vomiting. This lasted three days, after which the course was just like the others. Throughout the attack the eyes remain bright and the face flushed. There were no relapses, recrudescences, or chills. Erythema appeared in two patients. Perspiration was absent. Desquamation in fairly large flakes attracted notice in one, and occurred in small amounts in another.

The blood showed no marked changes in 9 cases. The hemoglobin was not reduced and the red count remained materially unchanged. The lowest count was 4,300,000. There was no leucopenia or leucocytosis. The count ranged from 4,500 to 8,500.

The Riva-Rocci systolic pressure was never below 125. Jaundice, hemorrhage, perforation or neuritis were never met with. Renal complications are also rare. Ehrlich's diazo test appeared in 3 of the 7 cases so examined. Pyuria may be present as in one of the series. Albuminuria occurred without casts in 4 cases.

DIAGNOSIS.

From typhoid and paratyphoid fevers the diagnosis should be simple after the tenth day; failure of agglutination tests, entire absence of spleen, characteristic eruption, want of a lengthy incubation period, tympanites and cultures of the bacilli from the blood.

Malaria should give no trouble. The parasites are now so readily recognized by even a second-year medical student that even the hidden parasites of the estivo-autumnal form can no longer escape observation for more than a few days. Ulcerative endocarditis and other forms of pyemia will only confuse for a few days.

There really is no chance to confuse this fever with acute miliary tuberculosis, appendicitis, or th ediseases mentioned under history, such as febriculo or Weil's disease.

There is really no chance to confuse this fever with acute miliary tuberculosis, appendicitis, or the diseases mentioned under history, such as febricula or Weil's disease.

The condition can thus be considered a distinct clinical entity. It seems really to enter a well-recognized place from the numerous letters received.

PROGNOSIS.

The patients all recovered with no apparent sequelæ except the patient who, some weeks afterward, ran a typical typhoid course with a Widal reaction present. Twenty cases, however, are not enough on which to generalize, and prognosis, as well as the other data, must be left necessarily incomplete until additional cases are studied.

The general management of these patients must be left to the hands of skilled nurses just as in the case of typhoid. In my series nothing unforeseen developed to require much interference with Nature. The constipation is very stubborn and must be closely watched.

A typhoid diet of albumin, milk and water, as well as hydrotherapy, seems to be the *sine qua non*.[3]

3. For another article on this disease the reader is referred to Mellette, U. N.: Med. World, July, 1906.

Acetanilid in Solution of Hydrogen Dioxid.—According to C. H. Wall, in the *American Journal of Pharmacy*, several samples of hydrogen peroxid solution were found to contain itrobenzol, which results from the addition to the solution of small quantities of acetanilid for the purpose of preserving it. The preservation is effectually secured, and it is probable that the small amount of acetanilid added is not objectionable, but its presence and amount must be declared according to the new law.

AN OCULAR METHOD FOR THE DIAGNOSIS OF HEART BLOCK

AND FOR THE COMPARATIVE STUDY OF AURICULAR AND VENTRICULAR IMPULSES.

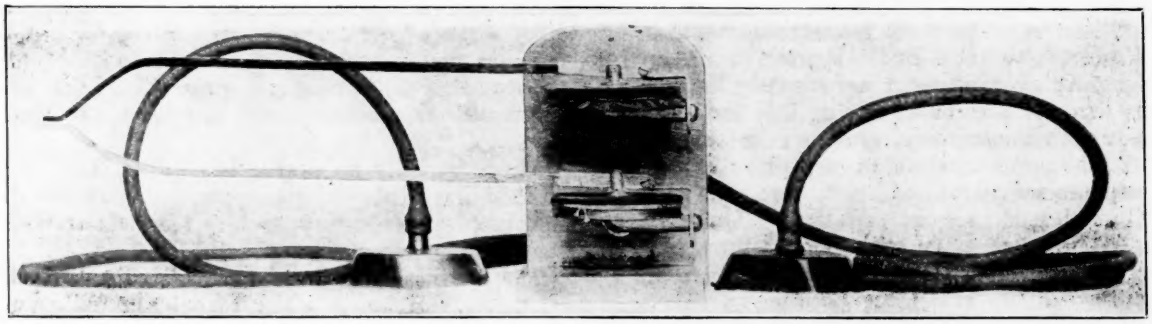
G. W. McCASKEY, M.D.
Professor of Medicine, Purdue University; Physician, Hope Hospital.
FORT WAYNE, IND.

Owing to the clinical and experimental investigations of Krehl, Engelmann, Hering, Erlanger, MacKenzie, Aschoff, Tawara and others, the more exact diagnosis of cardiac disease has become both possible and imperative. Among the questions of vital importance in certain forms of cardiac disease is the synchronicity or time relations between the movements of the auricle and ventricle. Under normal conditions the cardiac cycle begins with the auricular contraction, the impulse from which is transmitted through the bundle of His to the ventricle which should contract in a certain average time after the auricle. While there are those still who believe that the ventricle contracts from other causes, such, for instance, as distension with blood, the evidence seems to me to be entirely conclusive that its normal excitation is received through the conducting fibers above referred to, although an inherent rhythmicity of the ventricular wall is certainly a reserve mechanism, while it is possible that distension of the ventricular cavity may be another. A failure of the auricular impulse to produce an effective ventricular contraction constitutes what is known as heart block. This, perhaps, is produced usually through a lesion of the bundle of His, but sometimes probably because of conditions of the ventricular muscle which make it impossible for it to respond to a normal stimulus. If no effective impulses pass from the auricle to the ventricle the heart block is complete; if a part only are effective it is partial. The recognition of this condition, which is of the highest importance from a therapeutic point of view, is only possible by determining the relation between auricular and ventricular contractions.

The method of MacKenzie, to whom we are chiefly indebted for working out these problems on the clinical side, is the only one that will permit of an accurate scientific study of the various elements of the cardiac cycle. The practical application of this method is technically difficult owing to the time required to adjust the radial sphygmograph, a fact which is recognized and referred to by those who are skilled and experienced in this sort of work. I find, for instance, that the weight of the MacKenzie tambour attachment pulls the sphygmograph out of adjustment, making it difficult to hold it accurately with the wristband. Whether the new instrument of MacKenzie, by means of which multiple tracings ten or fifteen or more feet long can be made, as shown at the Toronto meeting, will lessen the tediousness of this work may be doubted, although its great value in permitting prolonged study of the heart movements by means of graphic tracings is perfectly obvious. It is not yet, however, on the market.

It occurred to me that the mere question of the physiologic association of the auricular and ventricular impulses might be determined by an ocular method, easy and rapid in its application, and for this purpose I have devised and had made for me by Truax, Greene & Co., Chicago, the apparatus shown in the accompanying illustration. It consists of two tambours placed one above another with long aluminum levers, the long arm bearing to the short, the ratio of about 12 to 1, and both the levers being bent at their distal ends so as to either approximate each other or be on exactly the same level as preferred by the operator. Connecting with the tambours on the back of the frame supporting them are conducting tubes attached to bells similar to those used in the MacKenzie polygraph.

One of these is placed over a pulsating jugular vein, and the other over the apex if a sufficiently strong impulse can be obtained here; if not, over the carotid of the opposite side, and the two impulses, greatly exaggerated by the long levers, are seen side by side and their regularity and approximate interval can be readily determined. If a ventricular impuse fails now and then and the auricular does not, partial heart block is at once demonstrated. If the interval between the external jugular and ventricular impulse is too long, impairment of the conductivity of the bundle of His is demonstrated. It is not supposed for a moment that this can replace the graphic method, but as it requires less time and less technical skill, it will be more widely applicable under many conditions. It has the further advantage that the movements can be watched for an indefinite period of time without reference to the length of the slip of paper to be used or the precise and accurate adjustment of the graphic apparatus. It is, therefore, offered to the profession in the hope that it may be of some little assistance in the study of cardiac diseases.



Influence of Weather on Incidence of Eclampsia.—W. Ruth of Riga, urges greater care of pregnant women in regard to functioning of the skin. During damp weather pregnant women should refrain from exposing themselves to the damp air as it is liable to check the functions of the skin and impose a heavier task on the kidneys. He reviews the opinions of others in regard to the influence of the weather on the occurrence of eclampsia, adding his own experience which confirms the connection between chilling the surface of the body and the development of eclampsia. His article is published in the *St. Petersb. med. Wochschr.* for Dec. 15, with several tables showing the marked influence of damp weather on the number of cases of eclampsia, especially long protracted damp weather, irrespective of the temperature.

THE FENESTRATED BROAD LIGAMENT CLAMP.

WITH SOME REASONS FOR DEVISING IT.

A. BELCHAM KEYES, M.D.
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CHICAGO.

The idea of devising a new clamp occurred to me in consequence of the force necessary and trauma often caused while clamping infiltrated, inextensible and stiffened broad ligaments during salpingectomy or oöphorosalpingectomy, especially in cases where the abdominal walls were markedly thick, even though exposure were made by a longer median incision than usual.

To ligate before removing the tube in cases of sactosalpinx purulenta also has the disadvantage of manipulating an infectious pus sac, with the possibility of rupture, as well as occupying more time than clamping, excision and ligation.

Observations of cases of pus tubes in various stages

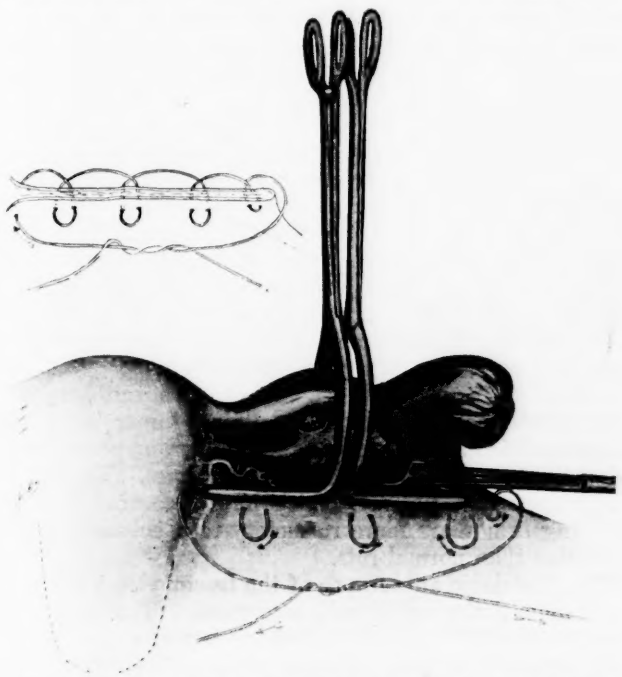

Fig. 1.—Fenestrated clamp applied; excision of adnexæ through fenestra; then application of ligature.

has demonstrated that we may almost speak of the mechanism of the formation of the pus tube even if the findings differ widely in different cases.

The normally situated tube under conditions of purulent inflammation undergoes increase in size, length and weight, especially at the distal or fimbriated extremity, tending to descend posteriorly and medianly toward the uterus, often enveloping the ovary.

One frequently finds evidence that this *descensus tubæ* occurred before the inflammatory process had penetrated entirely through the tube wall to the serosa, so that the ovary is often found unimplicated at the time of the operation. This cornucopia-like rolling up of the tube often continues till the closed fimbriated extremity lies at the bottom of the cul-de-sac. The detachment of the tubes from their adherent positions can be naturally most easily accomplished by the observation of the rule to deliver by the inverse manner of the production of the malposition.

After delivery at the abdominal opening, the method of clamping, excision and ligation, in turn, and covering of the stump to best avoid infection and operative sequelæ, especially adhesions of stump edges and surrounding viscera, is of the utmost importance.

The oblique method of applying the clamps is not devoid of objections; the outer, or infundibulo-pelvic, clamp is not always capable of being applied without serious danger of the necessary manipulation causing rupture of the sactosalpinx; while that of the uterine end often markedly increases the intratubal pressure, also adding to the liability of the same accident, besides perhaps causing increased shock due to the crushing of so important a structure as the tube. Also in excising the adnexæ obliquely downward from either end, the parametrium is opened at its base, a very great objection in any case, but especially where there is an escape of pus (perhaps not yet sterile) probably accounting for some of the cases of secondary parametric abscesses.

Another objection is the extent of broad ligament excised, unduly weakening it through its whole height,

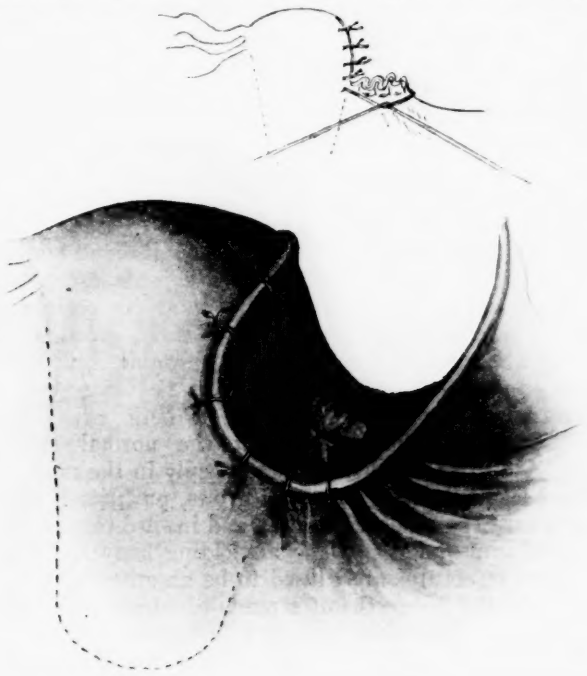

Fig. 2.—Cornua and ligated broad ligament puckered at lateral border of uterus; covered by peritoneum by suturing round ligament to the posterior uterine surface and broad ligament.

often with consequent change in the position of the cervix and probable malversion and, despite the most careful suturing, the leaving behind of raw edges, with resultant adhesions.

With the fenestrated forceps the excision is entirely horizontal, the infected adnexa can be excised at once, the stump of the broad ligament is capable of being puckered at the lateral border of the uterus by being drawn toward the most fixed point, i. e., the uterus, through the lateral edge of which the suture is first passed. The round ligament is now drawn over the sutured cornua and broad ligament stump and is sutured to the uterus and broad ligament as in the accompanying picture, thereby effectually and easily covering them as well as maintaining the uterus in anteversion.

While I feel that an apology is due for adding one more instrument to an already overcrowded armamen-

tarium, I still feel that any effort toward simplifying an operation that, despite its commonness, has not yet reached the uniformity it deserves, should be presented for consideration.

INFILTRATING AND METASTASISING SARCOMA OF THE RAT.*

SIMON FLEXNER, M.D., AND J. W. JOBLING, M.D.
NEW YORK CITY.

A forthcoming number of the *Journal of Experimental Medicine* will contain a detailed description of a mixed-cell sarcoma of the rat which presents many points of similarity with sarcoma of man. The original tumor sprang from the seminal vesicle of a white rat and it has since been transplanted successfully to several hundred rats, both white and mixed gray and white. At first the number of successful transplantations was variable and sank as low as 20 to 30 per cent., but in the last months the successful results have in certain series reached 100 per cent. and averaged about 95 per cent. This increase was achieved by selecting the more rapidly growing tumors, in a young state, for the inoculations.

The inoculations have been made under the skin into the muscles, and into the peritoneal cavity. The subcutaneous nodules tend to invade the skin and to cause ulceration; the intramuscular nodules penetrate deeply into the surrounding tissue and substitute themselves for muscle, connective tissue, cartilage and bone. The tumor is especially characterized by its infiltrative growth. It is not surrounded by a capsule except in the early stages, but it grows freely at its periphery into the surrounding tissues. The early growths in the subcutaneous tissues are freely movable, but later on they attach themselves either to the skin or to the muscles, sometimes, indeed, to both skin and muscles, and gradually supplant the normal structures. A bit of the tumor planted deeply in the muscles of the back will gradually, as it grows, push itself outward toward the superficial fascia and inward toward the spinal column and ribs. The unyielding bony and cartilaginous structures are caused to be absorbed by pressure, or by the ingrowths of strands of tumor cells into their substance.

The intraperitoneal inoculations give rise frequently to multiple tumors. The original tumor developing from the transplanted fragment of tissue is the largest nodule; but other nodules of relatively large size are commonly present in the omentum, the mesentery of the duodenum and between the liver and the diaphragm. Smaller miliary foci of tumor growth occur elsewhere in the peritoneum. A frequent localization of the tumor in the peritoneal cavity is between the cardiac end of the stomach and the diaphragm, through which the stomach is attached firmly to the diaphragm, and the tumor grows through the wall of the stomach into its lumen, where it becomes subject to the digestive action of the gastric juice. Typical cup-shaped ulcers with firm elevated edges have been produced in this way.

The intramuscular inoculations, if made in the abdominal muscles, can give rise to intraperitoneal growths. In this case the tumors penetrate the muscular walls and become intraperitoneal. They then conduct themselves as if they had been originally produced by intraperitoneal inoculation. If the growth from without is through the posterior abdominal wall, the kidney may be displaced forward and it may also be nearly or completely destroyed by the tumor invasion. Ascites occur, with which may be associated a diffusion of microscopic masses of tumor cells throughout the peritoneal cavity, from which general miliary sarcomatosis of the peritoneum may result. The diaphragm is involved, probably by direct lymphatic infection.

A striking feature of the tumor is its tendency to produce large metastases. These occur, in order of frequency, in the lungs, the peribronchial lymphatic glands, the intercostal muscles and the ribs, the kidneys, regional lymphatic glands, and the heart. The metastases may reach a very large size, especially in the lungs and kidneys. A large segment of a lung or a kidney may be involved.

Rats which have primary tumors may be inoculated a second time successfully. The second growths are as rapid as the first, although the percentage of successful second implantations is below that of the controls. The secondary inoculation succeeds in animals in which no visible metastasis has occurred and in which the original growth is the only nodule in the body, and it succeeds equally in animals in which metastasis has already taken place. No marked difference in susceptibility of the rat as yet been made out as respects these two conditions.

Rats which have successfully withstood one inoculation are less subject to another inoculation with the tumor than control rat or rats in which a tumor is already present. In other words, it appears that rats which have withstood inoculation originally with the less active tumors have been rendered, in some degree, refractory in inoculation with the more active tumors.

A certain but small percentage of spontaneous recoveries takes place in rats which have originally developed inoculation tumors. By treatment with salt solution and photodynamic anilines the living tumor cells can be so modified as to influence the number, or percentage, of the rats making spontaneous recoveries. There are indications that the rats which have recovered from a growing tumor are more refractory to a subsequent inoculation than normal rats.

The histologic appearance of the tumor places it probably among the mixed-cell sarcomata. The cells are spindle shaped and polyhedral, and not a few giant cells are also present. There is moderate development of fibrillated basement substance. In parts of certain tumors, tubular or irregular alveolar structures can be discerned. Taken all together, however, it seems advisable, for the present at least, to consider the tumor as a mixed-cell sarcoma.

* From the Rockefeller Institute for Medical Research, New York.

Syringe for Injecting Solid Paraffin Into the Tissues in Ozena.—R. Botey of Barcelona describes in the *Arch. Internat. de Laryng.* 1906, xxii, 855, a syringe of his own devising that forces cold, solid paraffin in a fine jet out of the needle. Great pressure is exerted on the piston by a spring in the nut-cracker handles, acting on a click and ratchet mounted on a screw thread on the stem of the piston. The paraffin issues more gradually and with greater force than with any of the other syringes yet made. In paraffin treatment of 360 patients with ozena during the last four years, he has made about 7,200 injections in all. In about a third of the cases the paraffin was expelled later, but in the others the patients were cured or immeasurably improved. His experience indicates that about 10 per cent. of patients with ozena are beyond relief, 25 per cent. can be very much improved, 45 per cent. can be practically and 20 per cent. can be completely cured by treatment including injection of cold hard paraffin.

New and Non-Official Remedies

THE FOLLOWING ARTICLES HAVE BEEN TENTATIVELY ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR INCLUSION IN THE PROPOSED ANNUAL, "NEW AND NON-OFFICIAL REMEDIES." THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT, BUT TO SOME EXTENT ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE FINAL ACCEPTANCE AND PUBLICATION IN BOOK FORM.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(Continued from page 329.)

(A list of all accepted articles is published on one of the advertising pages of The Journal in the first issue of each month.)

ALYPIN.

Alypin, $(CH_3)_2N.CH_2.C(C_2H_5)(C_6H_5COO).CH_2.N(CH_3)_2HCl$, is the hydrochloride of benzoyl-2-ethyl-1,3-tetramethyldiaminopropan-2-ol.

By the action of dichloracetone, $CH_2Cl.CO.CH_2Cl$, on ethylmagnesium bromide dissolved in ether and decomposition by water of the magnesium compound formed, ethyl-dichlorhydrin, $CH_2Cl.C(C_2H_5)(OH).CH_2Cl$, is obtained. From this, by the action of dimethylamine, ethyl-tetramethyl-diamino-propanol is produced. This product is treated with benzoyl chloride and the benzoyl-ethyl-tetramethyl-diamino-propanol neutralized with hydrochloric acid to form the chloride.

Alypin is a white, crystalline powder, melting at 169° C. (336.2° F.), hygroscopic and extremely soluble in water. Its solutions are neutral and are not rendered turbid on addition of sodium bicarbonate in moderate quantities, and may be sterilized by boiling for a period not exceeding five minutes, without decomposition. It is easily soluble in alcohol. It has a markedly bitter taste.

It should be protected from the air in well stoppered containers. Two and four per cent. solutions are quite stable, but weaker solutions are likely to become mouldy.

Addition of potassium iodide T. S. to the aqueous solution (1-100) produces a white precipitate; potassium dichromate T. S. produces a yellow crystalline precipitate soluble in hydrochloric acid; potassium permanganate T. S. produces a violet crystalline precipitate, which turns brown on standing. If 0.1 Gm. Alypin be mixed with 1 Cc. sulphuric acid and warmed to 100° C. (212° F.) for five minutes and then 2 Cc. water carefully added the odor of benzoic-ethyl-ester is developed; on cooling crystals separate out, which are dissolved on adding 2 Cc. alcohol. If Alypin is dried at 100° C. (212° F.) the loss should not exceed 1.5 per cent.

Actions and Uses.—It is a local anesthetic, claimed to be equal to cocaine, but not a mydriatic; it is said not to produce disturbance of accommodation and to be less toxic than cocaine.

Dosage.—Externally in the form of a 10 per cent. solution; hypodermically in 1 to 4 per cent. solutions. As much as 5 Cc. of a 3 per cent. solution was well tolerated in one case.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York) U. S. patent No. 808,748. U. S. trademark No. 44,608.

ANTHRASOL.

COLORLESS COAL TAR.

Coal tar, freed from pitch, pyridin bases and coloring matter, and mixed with juniper tar.

Coal tar is freed from bases, such as pyridin and chinolin by treatment with acids and from pitch by distillation. The distillate containing the hydrocarbons and phenols of tar is purified to remove constituents causing discolorization. To prevent separation of solid constituents juniper tar is added, and oil of peppermint to correct the odor. It is a thin, mobile, light-yellow oil, which does not stain either skin or linen.

Actions and Uses.—Anthrasol is antiseptic, parasiticide, keroplastic, anti-pruriginous; like ordinary tar, it allays irritation of the skin, but is claimed not to obstruct the follicles nor to favor the development of acne.

It is recommended in chronic or subacute skin diseases, various forms of eczema, especially for after treatment, and for all pruriginous affections; in diseases of the hair, as a restorative and for the removal of dandruff.

Dosage.—Locally in the form of a 5 to 10 per cent. petrolatum ointment in eczema; 10 per cent. ointment with glycerite of starch and 10 per cent. of wool fat (adeps lanæ) in pruritus; 20 to 30 per cent. ointment or paste, in lichen; in combination with sulphur and soft soap, in parasitic *skin affections.*

Manufactured by Knoll & Co., Ludwigshafen a. Rh. and New York. U. S. trademark No. 40,634.

CHLORALAMID.

A name applied to Chloralformamidum, U. S. P.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). German patent No. 50,536; U. S. patents Nos. 429,039 and 429,040.

COLLARGOL.

COLLARGOLUM; COLLOIDAL SILVER; ARGENTUM COLLOIDALE; ARGENTUM SOLUBLE; SOLUBLE METALLIC SILVER; ARGENTUM CREDÉ.

Collargol is a water-soluble, allotropic form of metallic silver, said to contain 85-87 per cent. of silver, and a small percentage of albumin with products of its oxidation.

Collargol occurs as small, hard, brittle, bluish-black, scale-like pieces. It is soluble in 20 parts of distilled water, producing a dark olive-brown solution which remains stable for months. No separate silver particles can be distinguished in the solution even when magnified to the highest degree under the microscope, and it has all the other characteristics of a solution, except that it does not conduct electricity. The addition of albumin to collargol prevents or delays its precipitation by acids and salts. A sufficient amount of albumin to prevent its precipitation under ordinary conditions is therefore added to collargol during its manufacture. Hence collargol, even when dissolved in spring or well water containing salts, undergoes no change, and it remains unaffected by boiling, whereas colloidal silver, containing no albumin, precipitates on being boiled.

When a solution of collargol is warmed with nitric acid a white cloudiness is produced, which clears completely on standing. The silver can then be demonstrated in the usual manner. On heating a fragment of collargol on a platinum scoop, shining white metallic silver of the ordinary kind, insoluble in water, is at once formed.

Its solution should not be exposed to light or air; it is incompatible with the usual silver reagents.

Actions and Uses.—Collargol is a general antiseptic and germicide which can be introduced into the system without causing either local reaction or general poisonous effects.

Dosage.—In most cases it is best employed locally in the form of a 15 per cent. ointment (see Collargol ointment), 2 to 4 Gm. (30 to 60 grains) being very thoroughly rubbed into the skin; otherwise, in carefully filtered solutions, varying in strength according to the intended use; 2 per cent. to 5 per cent. for intravenous injections, 1/50 per cent. to 1 per cent. solutions for washes; 5 per cent. dusting powder, prepared with finest clay; in the form of bougies containing 0.2 Gm. (3 grains) and vaginal suppositories and tampons each containing 0.05 Gm. (¾ grain), for parenchymatous injections in 0.5 per cent. to 1 per cent. glycerin solutions. Internally a solution of 1:500 to 1:100 is given freely in teaspoonful doses added to the food, in infectious gastric and intestinal diseases. It is also given in tablets containing 0.06 Gm. (1 grain).

Manufactured by The Heyden Chemical Works, Radebeul, Germany, and Garfield, N. J. (Schering & Glatz, New York), U. S. trademark No. 32,452.

(To be continued.)

Naming of Carbon Compounds.—Ol is a suffix indicating hydroxyl, the (OH) group, thus CH_3OH is methanol. Exceptions: benzol, toluol, xylol.—*Pharm. Rev.*, August, 1906.

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[*For other information see second page following reading matter.*]

SATURDAY, FEBRUARY 2, 1907.

A LAYMAN'S APPEAL FOR THE SUPPRESSION OF QUACKERY.

The far-sighted men in our profession have always insisted that no lasting nor effective reform of the evils of quackery could come about until the public was aroused to the necessity of abolishing the bloodsuckers and vampires that prey on the sick. To the average man and woman the argument that "the doctors are mad because their business is being hurt" is so in line with every-day ethics as to constitute an adequate explanation of the profession's opposition to this form of deception and dishonesty.

Such events as the adoption of the Food and Drugs Act by Congress, the well-known and effective campaign carried on by *Collier's Weekly* and the *Ladies' Home Journal,* and other similar efforts on the part of laymen are, in truth, signs of better things to come. One of the publications which has been waging a telling and relentless war against fakers and frauds is the Kansas City *Independent.* In a vigorous editorial, January 19, Mr. George Creel, the editor, makes a strong argument in favor of legislation against quackery, both on the part of the state legislatures and the national congress. Coming from a layman, who through actual experience has gained an insight into the horrors of quackery, this is deserving of commendation and of wide publicity. He says: "This paper, in the beginning, commenced its crusade against quacks and quackery in a very light-hearted manner. The advertisements were so very laughable, so screamingly funny with their testimonials and pictures of bewhiskered gentlemen, that they appealed to ridicule with irresistible force. But after a few weeks of 'josh' the matter ceased to be amusing. By letter and in person there came recitals of cold-blooded scoundrelism that seemed impossible of belief had it not been for absolute verification. Then the fight was commenced in earnest."

Mr. Creel thus argues: "The pure food law will protect the public health beyond calculation, but there is still the necessity of safeguarding the sick from unskilled and unscrupulous ministrations. Congress should pass a law leveled directly at the quacks and frauds who make rich livings by preying on ignorance, credulity, sickness and suffering, but the state legislature can get quicker action. Why should not a bill be introduced at once that will do away with the amazingly large number of fakes that coil in all of the large cities of Missouri (and, he might have added, in other states also) sending tentacles into every village and farm house? The present provisions for the revocation of licenses to practice medicine are not adequate. The State Board of Health has no funds at its disposal and so is absolutely barred from making any fight against the quacks who are, for the most part, wealthy, able to hire the best lawyers and, by reason of huge advertising expenditures, can purchase immunity from the daily papers. The passage of laws which will make the securing of a license more difficult and the revoking of a license, for sufficient reasons, much easier is absolutely imperative. The legislature should appropriate sufficient money for the use of the Board of Health to enable it to protect the people of the state against quackery."

With a clearsightedness and frankness that is most gratifying, Mr. Creel says: "The root of the evil lies with the newspapers. Ninety-five per cent. of the earning power of these fakes and frauds lies in newspaper advertising. Ninety-nine out of every hundred 'patent medicines' and advertising doctors are lies and cheats. A newspaper proprietor is just as responsible for the advertisements that go into his paper as he is for any article in the news columns. A law that would make the newspaper owner civilly and criminally responsible for advertisements in his paper would come close to solving the fake doctor problem. The majority of testimonials used by 'patent medicine' companies and advertising quacks are bought or else written by some clever writer in the employ of the faker."

This strikes directly at the root of the entire matter. The whole problem of "patent medicines," dishonest, fake proprietary remedies and quack doctors is one of the developments of the American craze for advertising. Legitimate advertising is simply the announcement of the quality and price of desirable goods and a statement of where and how they can be obtained. Illegitimate advertising, of the kind on which these fraudulent businesses are based, consists in using any means or device that may be necessary to create an artificial demand for the goods of the vendor, or in so misrepresenting the value or merit of the product as to lead the public to purchase it under the impression that the articles advertised are what they are claimed to be. There is no sadder spectacle to be found in our large cities than the great daily newspapers advocating municipal righteousness, pure politics and unselfish citizenship in the editorial pages and displaying advertisements of fortune tellers, quack doctors, "patent medicines," fakes and abortionists in their advertising columns.

The second important point in Mr. Creel's argument is the demand that the Board of Health be provided with sufficient funds to enable it to protect, adequately, the lives and health of the people of the state. Most of our state boards are restricted in their expenditures to the fees which they receive for examinations. A state

legislature will unhesitatingly appropriate hundreds of thousands of dollars to protect the property of its citizens and yet deny the state board of health any aid whatever in protecting the lives of the people. Most state boards are absolutely dependent on fees collected for examinations. In other words, the doctors pay the health bills of the state. A state board of health should be as much a part of the state government as is the supreme court. As soon as it is given power and means commensurate with its importance, results will be achieved which have hitherto been undreamed of.

A state board which possesses real power and a public press which feels itself responsible for its advertising pages, as well as its editorial and news pages, would relieve the country of quackery and fraud without delay. On the whole, the most hopeful feature of the present movement is that it has originated and been carried on very largely by the public.

GROCCO'S SIGN.

In these days of laboratory methods it is refreshing to find that there is still room for pure clinical observation and that, from time to time, new signs of old conditions are brought forward. One often feels that in powers of clinical observation the old masters of medicine were far ahead of us, but possibly this is a mistaken idea due to the halo of glory with which we often surround remote occurrences. It is to be hoped that the occasional discovery of new signs will stimulate all practitioners to develop the powers of their unaided senses to the highest possible degree and to depend, to a lesser extent than is now usual, on extraneous instrumental aids.

About five years ago Grocco of Florence described a sign of pleural effusion which has attracted little attention in this country, but which seems worthy of serious consideration. The sign consists in the presence of a paravertebral triangle of dulness on the side *opposite* to that on which the effusion is present. The triangle of dulness has its base at the base of the lung, almost at right angles to the spinous processes, and corresponding to the lower margin of normal pulmonary resonance. Its apex is usually at about the level of the dulness from fluid above. Its area is determined mainly by the width of the base, which varies from two to seven centimeters. The vertical side of the triangle is represented by the line of the spinous processes, the other side by a line drawn from the outer end of the base line to the apex. The manner of eliciting the sign is well described by Thayer and Fabyan[1] in a recent paper. After delimiting the effusion, the lower limit of pulmonary resonance on the opposite side is determined, and the observer then percusses from above downward directly over the spine, marking the point at which relative dulness begins. This usually corresponds to the beginning of relative dulness on the side of the effusion. The observer then percusses from above downward along lines parallel to the spine, and from without inward along lines parallel to the lower limit of pulmonary resonance. There is not only present over the area relative dulness, but also changes in the auscultatory phenomena. Distant tubular breathing may be heard, the voice sounds may be nasal, and a metallic coin sound may be present. An important point in connection with the sign is its variation with change in the patient's position. With the patient lying on the affected side the triangle of dulness may nearly or entirely disappear. The sign is best elicited with the patient in the sitting position.

A number of experiments on cadavers, having in view the elucidation of the sign, have shown that in pleural effusion the fluid not only pushes aside the lung on the affected side, but also displaces the pleura before it, forcing it to the front of the vertebræ, and, in the case of right-sided effusions especially, displacing the contents of the posterior mediastinum toward the opposite side. This has the result of removing the lungs from the vertebral column which normally gets its resonant percussion note from their contiguity, and it also inhibits the vibratory power of the vertebræ, and compresses an area of lung on the side opposite the effusion.

The sign is apparently a valuable one, because it is rarely absent when there is a pleural effusion of any amount. It may be present with as little as 250 cubic centimeters of fluid. In ordinary cases of pleural effusion there is usually little difficulty in making a diagnosis, but in obscure cases, as those having encapsulated effusions, there may be a great deal of doubt as to the nature of the lesion, and, as the sign is present in such cases, it is likely to prove of distinct value. It is certainly deserving of wider recognition than it has yet received.

1. Amer. Jour. Med. Sci., January, 1907.

MONSTROSITIES IN COMBINATIONS OF DIGESTIVE FERMENTS.

Medicinal preparations are on the market that are said to contain the digestive ferments pepsin and pancreatin. A combination containing these two digestives, at least in liquid form, is, as some one has expressed it, "a therapeutic absurdity and a chemical monstrosity." The subcommittee of the Council on Pharmacy and Chemistry, to which some of the proprietaries, or "specialties," were referred, has for nearly a year labored with the problem as to what should be done with them. The committee appreciated that some of these preparations were being used by a large number of physicians, and to refuse to recognize any of them might subject the Council to the charge of being too narrow, too particular, or too something or other—at least unless the reason for such refusal was explained in a convincing manner.

In the Pharmacology Department this week[1] will be

1. See page 434.

found the report of the committee as adopted by the Council relative to this class of preparations. In so many words, the Council refuses to approve—and gives reasons for its action—any liquid preparation said to contain both pancreatin and pepsin. The fact that so many of this class of combinations have been used for so long with scarcely a protest is remarkable. It can only be explained on the assumption that many physicians believe the literature sent them by the manufacturers rather than scientific works and recognized textbooks. Those who use these preparations have at least forgotten the fundamental physiologic facts relating to digestion and to the digestive ferments. Certainly every medical student knows that pepsin acts only in an acid medium, and the pancreatic juices only in an alkaline medium; and every physician, if he will stop to think, knows that pepsin and pancreatin can not possibly remain in the same solution without one destroying the other, much less be effective as therapeutic agents.

That there are such preparations on the market is a reflection on those who make them as well as on those who use them. In some instances it must be charged to present-day commercialism, in others to indifference, and in still others to ignorance. The manufacturers who know better blame physicians. The chief chemist of one of the largest manufacturing pharmaceutical houses, which puts out two or three of these monstrosities, said to us recently that physicians call for these preparations, that the company simply supplies the demand. A representative of another large house openly declared that the firm considers it its business to supply whatever is demanded, and that it is in the business for money, and not to try to curtail a demand, the supplying of which is found profitable. It is a pleasure to record the fact that one firm has already withdrawn its preparation from the market.

Undoubtedly, the real facts are that the desire for a universal digestant always has predisposed to a belief in its possibility, that this belief has been fostered by certain unscrupulous manufacturers, and that other more or less honest pharmaceutical houses, threatened by loss of prestige and tempted by the profits on such preparations, have felt obliged to follow suit. Even the National Formulary includes a formula for such a preparation!

While this condition of affairs is a serious reflection on scientific pharmacy, it must not be forgotten that the medical profession is very seriously to blame. Professor Sollmann has agreed to contribute two or three short articles on the subject, and the first one[2] appears this week. Aside from presenting an exposition of the scientific evidence as to the absurdity of these mongrel compositions, he will also point out some other facts about these ferments that seem to be overlooked by many physicians.

2. See page 415.

DR. M'CORMACK'S WORK.

As with other matters connected with the activities of the American Medical Association, it is not necessary to offer an apology for the splendid work that Dr. McCormack is doing. He may be a "walking delegate," as he is sneeringly designated by some of the gentlemen who love to criticise and belittle anything the Association does, provided that by the term is meant that he is delegated to meet the profession and the public all over the country in the interest of better conditions for both.

There is a misconception of what he is doing, however, even by those who are in sympathy with the Association and its work. As the *Ohio State Medical Journal* says, the majority of their officers "were laboring under the mistaken idea that the meetings were for the purpose of organizing the medical profession; in other words, had the end in view of forming medical societies." The idea seems to prevail in many quarters that he is organizing county societies, or creating a sentiment for organization, or trying to build up the American Medical Association. But he is doing nothing of the kind, except incidentally. Every state, except Maine and Virginia, has long since been organized on the plan recommended by the American Medical Association. While there are counties in many states in which there is no society, on the whole, every state, except the two mentioned, is fairly well organized and society membership is now within the reach of nearly every physician in the country. Dr. McCormack's work is purely altruistic.

Looking back after even so short an experience it is easy to see that this whole organization movement has been a great epoch-making evolution which has carried along in its growth and current those who were commonly supposed to be its sponsors and leaders. This seems to have been particularly true of the popular phases of Dr. McCormack's work. First in his own state, Kentucky, and later in Pennsylvania, California and elsewhere, he found laymen in attendance at what he supposed were to be strictly medical meetings, and it was necessary, on the spur of the moment, so to modify and simplify his talk as to adapt it to their comprehension. Later it began to dawn on him that physicians come so closely into the daily life of all the people that all classes can be easily interested and brought into active sympathy with everything that concerns the scientific, social and material welfare of the profession, if these matters be presented in plain, simple language.

At first a common meeting for the profession and the public was held in each locality, but the scope of the work broadened rapidly and it soon became a fixed procedure to hold a meeting for the profession in the afternoon and for both the public and the profession in the evening. In common with his colleagues, Dr. McCormack considers the county society the head, center and foundation of everything. He believes that each society should be made not only a postgraduate school for the mutual instruction and benefit of its members

in scientific, social and material affairs, but that it should also be a most potent factor in the every-day life of the community. These points are all brought out and fully discussed and illustrated in the heart-to-heart talks at the afternoon meetings.

At the evening meetings the curious, intimate, complex relations to the people of the individual physician and of the profession as a whole are freely discussed. The causes for the popular distrust of physicians, the defective and imperfectly enforced health and medical laws resulting, and the disastrous consequences to the people in the form of domestic pestilence, increasing the sick and death rate in many communities, are made impressive by illustrations drawn from a large personal and official experience. What the profession stands for, its high, unselfish aims and purposes, what it has accomplished under great difficulties, what it could accomplish if it could have that confidence and support of the people to which it is entitled, are vividly brought out. The danger to the people from poverty in the profession, and their part in practical measures for relief from this evil, are frankly discussed and fully appreciated. In a word, Dr. McCormack takes the public into his confidence and shows its deep concern in every interest of the profession. He shows up fraud and quackery in their true light, and the "patent-medicine" evil is painted as it deserves. At the conclusion of his talk there is always free discussion by laymen representing the leaders of public opinion, who are ever found in sympathetic accord and ready to pledge cordial assistance in the great reform work which has been proposed.

As was noted in the Alabama news two weeks ago, Dr. McCormack received an ovation at the state capital, addressing a joint session of the General Assembly by special request. He also spoke before the classes of the University of Alabama and at the Y. M. C. A. while in Mobile. Last week he spoke before the General Assembly of Tennessee, and this week before the Commercial Club of Louisville. It is certainly encouraging when legislative bodies and business organizations are ready to open their doors and ears to medical men in this appreciative way.

And there can be no question of the need for far more work of this kind than any one man can do. The work is only begun if the profession and people are to reap the full fruits of organization. The people want accurate information, want to understand us, want to help us. This is demonstrated at every meeting. The quacks have misled them largely for lack of real leadership. Dr. McCormack's difficulty has been to get the profession, even the leaders and officers, to understand in advance the importance of securing full audiences of both physicians and laymen, and especially of educated, thoughtful people, at each appointment. After the meetings, when it is too late, a common exclamation is, "Why was not the community advised beforehand of the character of this address, and of the purpose of the meetings, so that everybody could have been here?" The fact is that the work opens up an entirely new field of appreciation, honor and usefulness to the profession and to the public in every community. Above all, it brings the public and the profession together, to the decided benefit of both.

GRADUATE WORK IN EUROPE FOR THE AVERAGE AMERICAN PHYSICIAN.

There is a tendency for American medical practitioners to go abroad for advanced work immediately after graduation. In some cases this step is taken purely with the view of acquiring that elusive something which we call prestige; the majority of those who go, however, really do so with the idea of deriving material benefit from thus "rounding off" their education. A contemporary[1] makes a timely protest against this custom, pointing out that the average American-born physician —for example, one who chooses to go to Germany— is so "steeped in American thought and American social conditions" that in the short period abroad he is unable to derive benefit from the contact with German medical science. The recent medical graduate, no matter how strongly convinced to the contrary, is seldom in a condition to know what he wants in the way of graduate instruction. To this uncertainty add foreign methods and a strange environment and it is not surprising that his brief sojourn is unprofitable. To the young physician the item of expense is invariably a large one. Most of the men who make the trip abroad do so at no small sacrifice of time and money, and it is more the pity that they get such poor returns for their investment. It is perhaps not necessary to refer to the strong temptation in the way of foreign attractions to which the neophyte is exposed. For most young men with normally developed inquisitiveness it is probably not an inconsiderable one. In fact, for the American medical graduate who feels that advanced work is necessary, the large medical centers of this country are of infinitely greater value. Medical and surgical science has reached such an advanced state in the United States that it is both unwise and unnecessary for the recent graduate to make an educational Mecca of foreign clinics. The time and money could both be expended to greater advantage by special work at one of the several high-grade medical colleges in this country or in hospital work. After a year or two of practice is the time to go abroad, if at all.

ONE EFFECT OF THE FOOD AND DRUGS ACT.

The pure food law has already begun to have an effect on the illegitimate nostrum concerns. One establishment, the Lightning Medicine Company, is announced as having gone out of business with $81,000 liabilities and practically no assets because it could not legally sell its products under the labels employed. The natural inference is that the debts must have been incurred mainly, if not altogether, for labels and advertising, the other stock in trade being worthless under its true name. A number of other "patent-medicine"

1. Interstate Med. Jour., December, 1906, xiii, 957.

concerns have also gone out of business, according to commercial reports. There will be others, and no one need regret it except those who directly lose thereby. There is no profit to the country in establishments that are nothing but wind and advertising.

GOOD OUTLOOK IN NEW YORK.

During this week the annual meeting of the Medical Society of the State of New York has been in session at Albany. This is the first state meeting to be held in 1907, and the first meeting of the Medical Society of the State of New York since its reorganization. Reports received from the secretary show that the present membership numbers over 6,500, and a large increase is anticipated during this year. The secretary says in his report: "The experience of the past year has demonstrated very clearly that a large majority of the county societies are thoroughly organized, are doing excellent scientific work, and that their affairs are conducted in a business-like way." The county societies have taken up the work of investigating the county records and enforcing the registration of physicians in accordance with the state law, which makes the county society responsible for the enforcement of the law regarding registration. With a united and thoroughly purged profession, this year should bring great things to the physicians of the State of New York.

Medical News

ALABAMA.

Society Elections.—At the annual meeting of the Etowah County Medical Society, held in Gadsden, January 3, the following officers were elected: Dr. Erasmus T. Camp, Gadsden, president; Dr. John P. Stewart, Attalla, vice-president, and Dr. Charles T. Acker, Gadsden, secretary. Dr. Eli S. Jones, Gadsden, was unanimously re-elected county health officer and censor.——At the annual meeting of the Jackson County Medical Society, held in Scottsboro, January 1, Dr. Thomas J. Bouldin, Hollywood, was elected president; Dr. Edward Boyd, Scottsboro, vice-president; Dr. Hugh Boyd, Scottsboro, health officer, and Dr. William C. Mapes, Scottsboro, censor.——The Madison County Medical Society held its annual meeting in Huntsville, January 8, and elected Dr. Benjamin E. Graham, Gurley, president; Dr. John J. Horton, Huntsville, vice-president; Dr. Edgar Rand, Huntsville, secretary; and Dr. William C. Wheeler, Huntsville, county health officer.——The annual meeting and banquet of the Mobile Medical Society was held January 5. Dr. J. Buckner Killebrew was elected president; Dr. M. Toulmin Gaines, vice-president; Dr. Neal E. Sellers, secretary; Dr. Tucker H. Frazer, president of the board of censors, and Dr. William H. Sanders, librarian.

ARIZONA.

To Protect Public Health.—The Common Council of Mesa City has passed an ordinance providing that every physician in the city who shall have a patient with typhoid fever, shall report the same to the mayor, giving the name and address of the patient, together with the source of food and water supply; that every physician shall report the name and address of each tuberculosis patient under his care; that all rooms occupied by tuberculosis patients shall be disinfected and fumigated; that it shall be unlawful for any person to spit on the sidewalk, or ground, in the town; that persons dealing in second-hand furniture shall keep a register of the purchase of such goods, and that in case they have been obtained from the room of a person ill with consumption, they shall not sell or dispose of the goods until they have obtained a certificate that the said goods have been properly disinfected and fumigated. The penalty for infraction of this ordinance are fines of from $5 to $50.

ARKANSAS.

Health of Little Rock.—During the 11 months ending December 1, 192 cases of contagious diseases were reported in the city, as compared with 204 cases for the previous year. The total deaths for the period were 788, or 5 less than for the corresponding period of 1905. There was a marked decrease in the cases of smallpox during the year.

Personal.—Drs. B. H. Galligher, Pine Bluff; O. C. Hankinson, Pine Bluff, and R. P. Wood, Altheimer, compose the health board appointed for Jefferson County.——Dr. Tyler Kennedy, Paragould, was recently kicked by a horse, sustaining a fracture of the skull.

DISTRICT OF COLUMBIA.

Society Elects Officers.—At a meeting of the Therapeutic Society of the District of Columbia, held January 12, the following officers were elected: President, Dr. Henry A. Robinson; vice-presidents, Drs. Frank Leech and Charles M. Beall; secretary, Dr. Arthur J. Hall; treasurer, Dr. John S. McLain.

Memorial to the Late Dr. E. Oliver Belt.—At a meeting of friends of the late Dr. E. Oliver Belt it was decided to raise a fund to provide a suitable memorial to him in the form of a free ward or bed in the Episcopal Eye, Ear and Throat Hospital, of which he was the founder.

More Money for Hospital.—Secretary Hitchcock has requested Congress to increase the limit of cost of construction of the new Freedmen's Hospital from $300,000 to $446,817. He asks an immediate appropriation of $18,494.50 for a heating and ventilating plant, and suggests that the balance of $160,149.50 be provided in the sundry civil appropriation bill.

Personal.—Dr. J. Thomas Kelley, Jr., has been appointed clinical professor of gynecology and associate professor of gynecology and abdominal surgery in Georgetown University Hospital.——Dr. Anita Newcomb McGee has received a medal from the Japanese government in recognition of the services she and her corps of American nurses rendered in the Russo-Japanese war.

FLORIDA.

Plea for Coöperation.—An address, which was characterized by the local daily press as being most interesting and instructive was given recently by Dr. J. N. McCormack at Pensacola. The need of coöperation among physicians in preventing the spread of disease and the necessity for legislative reforms in safeguarding the public health, were points brought out and strongly dwelt on. The meeting, which was held under the auspices of the Escambia County Medical Society, was well attended and much enthusiasm was manifested.

GEORGIA.

Contagious Diseases.—Smallpox is reported prevalent at Waverly Hall.——An examination of 30 cases of "fever" at Thomasville showed that 19 cases were typhoid, 10 suspected typhoid, and 11 diagnoses undecided. Eighteen cases of malaria were also found.

Board of Health Prohibits Distribution of Medicine Samples.—The Board of Health of Atlanta has prohibited the distribution of samples of "patent medicines" in that city. A local medicine firm presented a petition asking that it be permitted to distribute small samples to adults. A motion was made to act unfavorably on the petition, and this was amended to include all "patent medicines." The amended motion was passed unanimously.

Societies Elect Officers.—At the annual meeting of the Medical Association of Georgia, held in Savannah, January 8, the following officers were elected: President, Dr. M. F. Dunn, Savannah; vice-president, Dr. Jabez Jones, Savannah; recording secretary, Dr. John K. Train, Savannah; corresponding secretary, Dr. Thomas S. Clay, Savannah; librarian, Dr. J. A. Crowther, Savannah; treasurer, Dr. W. W. Owens, Savannah.——The annual banquet of the Floyd County Medical Society was held at the Cherokee Hotel, Rome, December 21. The officers for 1907 are as follows: President, Dr. W. J. Shaw, Rome; vice-president, Dr. H. H. Battey, Rome; secretary-treasurer, Dr. W. L. Funkhouser, Rome; delegate, Dr. J. W. Curry, Rome; censors, Drs. J. C. Watts, R. P. Cox, L. P. Hammond, Rome.——At a meeting of the Bibb County Medical Society, held during the first week in January, the following officers were elected: President, Dr. James T. Ross, Macon; vice-president, Dr. G. P. Gostin, Macon; secretary, Dr. J. C. McAfee, Macon.

ILLINOIS.

Sanatorium for Consumptives.—Mr. Glackin, Cook County, has introduced a bill recommended by Governor Deneen, asking for an appropriation of $150,000 for the establishment of a state sanatorium for tuberculosis.

Insane Hospital Condemned.—As a result of the complaint of the president of the State Board of Charities, regarding state institutions, the State Asylum for Insane Criminals at Chester has been condemned and will be abandoned.

Executive Officer for Charity Board.—At a meeting of the State Board of Charities, January 18, the board adopted resolutions creating the position of executive officer and secretary of the board, to be placed in authority over all employés and agents of the board, and to whom the board delegated all executive and administrative functions not requiring the use of its discretionary powers. On the motion of Dr. McNally, Mr. William C. Graves was unanimously chosen as executive officer and secretary.

Contagious Diseases.—Scarlet fever is still epidemic in Evanston, Oak Park, Wilmette and Kenilworth. Six cases were reported in Elgin during the week, and seven cases have occurred in Aurora.——Influenza, scarlet fever and diphtheria are reported prevalent in Vermilion County.——Scarlet fever is alarmingly prevalent in Rock Island County. Moline has 100 cases and an unusual amount of diphtheria.——Peoria and Canton have been added to the list of towns in which smallpox exists.

Do Not Want Names Mentioned.—The Tazewell County Medical Society, at its meeting, January 8, adopted resolutions requesting the editors of local and Peoria papers to refrain from mentioning names of physicians in connection with cases of illness or accident.——The East St. Louis Medical Society, at a recent meeting, decided to keep a scrap book of the items from papers relating to the members of the society, and that members whose names appear in the lay publications should be notified to appear before the society and to show cause why their names have so appeared.

Bill to Prohibit Poisonous Embalming Fluids.—Senator Breit has introduced bills designed to prohibit the use of arsenic or strychnin in embalming fluids. One reads:

> If any undertaker or other person embalms with, injects, or places on any dead human body any fluid or preparation of any kind which contains strychnin or arsenic he shall be fined not exceeding $50 for each offense.

Another provides that:

> No undertaker or other person shall embalm or inject in the dead body of any person any fluid or preparation of any kind before obtaining permission from the coroner when such body is the subject of a coroner's inquest. A violation of the foregoing section shall be punished by a fine not exceeding $50.

Arrangements for State Meeting.—The arrangements for the annual meeting of the Illinois Medical Society at Rockford, May 22, are in the hands of Dr. T. H. Culhane, Rockford, chairman of the general committee on arrangements; Dr. S. R. Catlin, Rockford, treasurer, and Dr. J. E. Allaben, Rockford, secretary. Dr. Daniel Lichty, Rockford, is chairman of the committee on entertainment; Dr. W. R. Fringer, Rockford, chairman of the committee on entertainment for ladies; Dr. W. B. Helm, Rockford, chairman of the committee on transportation; Dr. C. S. Winn, Rockford, chairman of the committee on exhibits, and Dr. Paul L. Markley, Rockford, of the committee on buildings.

Hygienic Reform Needed.—Dr. Frank Billings, president of the State Board of Charities, in an address to the members of the legislature January 17, called attention to the necessity of provision for the care of epileptics and others afflicted with tuberculosis. He declared that criminals sent to Joliet are thereby virtually condemned to death, and that nearly all the convicts sent to Joliet, who serve their sentences, are discharged with tuberculosis. He stated that an appropriation of $265,000 should be made for the purchase of land and construction of buildings for a colony for epileptics. He also declared that every insane asylum in the state should install appliances for hydrotherapeutic treatment. He said that $730,000 would be necessary to rehabilitate the state penal and charitable institutions.

Chicago.

Conviction in Cocain Cases.—The first of nine suits brought against Paul and Frank Zito, druggists, for the illegal sale of cocain, was decided against the defendants, who are reported to have been fined $500, January 15.

Chicago Medical Examiners' Association Elects Officers.—At a meeting held January 21 this association endorsed the action of the Committee on Medical Legislation of the American Medical Association, in advocating the establishment of a national department of health. The following officers were elected: President, Dr. J. M. Patton; secretary, Dr. E. Eisenstadt; treasurer, Dr. Ulysses Grim.

Hospital Notes.—On January 16, in an injunction suit by the Chicago Union Hospital against the city, the right of the city to regulate the location of private hospitals was upheld.——During 1906 2,955 ill and injured persons were given care at the Alexian Brothers' Hospital. In addition treatment was given to 3,050 patients in the sanitarium adjoining the hospital. It is reported that work will begin in April on the front wing of the hospital.

Scarlet Fever and Diphtheria Epidemic.—During the week ended January 26, 295 cases of scarlet fever and 1,005 cases of diphtheria were reported to the department of health. The contagious ward in the Cook County Hospital is crowded to the limit of its capacity. The health department states that it has found the scarlet fever to be in part due to unclean returned milk bottles and to the handling of milk by infected individuals. As a result of inspection many dairies have been closed. Many schools have been fumigated and the street railway companies have been induced to agree to fumigate the street cars.——Tonsillitis and other forms of sore throat are exceedingly prevalent.——Physicians all over the city and suburbs are reported very much overworked because of the unusual amount of sickness.——Several cases of measles are reported from Maywood.——Sixteen deaths from pneumonia were reported to the health department January 21.

INDIAN TERRITORY.

Society Meeting.—At the meeting of the Tenth Recording District Medical Society, held in Muskogee, December 10, Dr. I. B. Oldham was elected president; Dr. A. B. Montgomery, Checotah, vice-president; Dr. P. P. Nesbit, secretary; Dr. J. H. White, treasurer; Drs. C. W. Heitzman and S. Hoss, delegates to the Oklahoma State Association, and Dr. C. E. DeGroot, censor.

Hospital Notes.—Articles of incorporation have been issued to the Tulsa Hospital Association, with a capital stock of $40,000. The following are the officers of the association: President, Dr. Fred S. Clinton, Tulsa; vice-president, Dr. J. A. McAlester, Sapulpa; secretary, Dr. C. L. Reeder, Tulsa.——Steps are being taken in Ardmore to form a stock company, with a capital stock of from $10,000 to $15,000, to erect a three-story building for a hospital.

KENTUCKY.

Typhoid Epidemic.—A typhoid epidemic is reported in the extreme southern part of Bath County.

City Hospital Staff.—The staff of the Louisville City Hospital met January 15, and formally organized. Dr. Irvin Abell was elected president, Dr. J. K. Freeman, vice-president, and Dr. H. Clendenin, secretary. An effort will be made to obtain a modern morgue for the hospital.

Society Elections.—The forty-fourth annual meeting of the Kentucky Midland Medical Society was held at Lexington, January 10-11. The following officers were elected: President, Dr. C. W. Kavanaugh, Lawrenceburg; vice-president, Dr. N. M. Garrett, Frankfort; secretary and treasurer, Dr. George P. Sprague, Lexington.

MARYLAND.

Subscriptions to University Endowment Fund.—At a mass-meeting of alumni of the University of Maryland, held January 22, $7,000 was subscribed to the endowment fund. About 500 alumni were present.

Smallpox Epidemic.—Smallpox is said to be prevalent in the lower part of Kent County, Eastern Shore. Nine cases were reported January 19, six patients being white and three colored. For a time the diagnosis was chicken-pox. There is another case of smallpox at Lansdowne, Baltimore County.

College Merger.—The contract of agreement between the board of regents of the University of Maryland and the board of visitors and governors of St. John's College, Annapolis, has been signed and the two institutions merged. It provides for a council, which is to have charge of the curriculum and general policy and management of the merged schools.

Baltimore.

Hebrew Hospital News.—At the Hebrew Hospital Dispensary, Baltimore, 6,645 patients were treated during the year; 1,396 visits were paid to patients' homes; $3,400 were received during the year in legacies and donations.

Society Disbanded.—The Baltimore Medical and Surgical Association, the oldest local medical society in the city, suspended its career with the annual meeting held on January 14. Lack of interest in the meetings and work of the association prompted the members to disband. The failure was attributed

to the great number of medical associations. It was organized shortly after the Civil War.

Vital Statistics.—During the week ended January 26 there were 239 deaths in Baltimore, an unusually large number. There were 39 from pneumonia, 33 from tuberculosis and 8 from influenza. The annual death rate per 1,000 was 20.89; white, 17.52; colored, 38.71.

Personal.—Dr. J. C. Bloodgood has bought a residence on North Charles Street for $20,000.——Dr. Charles P. Emerson, resident physician of the Johns Hopkins Hospital, delivered an address at the Catonsville Presbyterian church, January 27, on "Christ for the Student and Scholar."

Hospital Report.—The annual report of the South Baltimore Eye, Ear, Nose and Throat Hospital states that the number of patients treated was 1,878, of whom 1,797 were white and 81 colored. There were 7,370 visits to the dispensary. Five hundred operations were performed. The number of house patients was 86.

MASSACHUSETTS.

Personal.—Dr. Daniel R. Brown, Salem, is recovering from serious injuries recently received in an accident.

Boston Death Rate.—Boston's reported deaths in 1906 were 11,412, or 405 more than in 1905, and an average rate of 18.94. Scarlet fever and typhoid decreased, while measles and diphtheria slightly increased. Diphtheria caused 149 deaths, scarlet fever 39, measles 72 and typhoid 116.

New Hospital for Soldiers' Home.—The Soldiers' Home, Chelsea, is to have a new hospital to cost $175,000. It will be 232 x 101 feet, will consist of three stories and a basement, and is to be built of brick and stone. Six wards of 22 beds each have as special features spacious sun rooms and sun piazzas. All the other details of a modern hospital will make this one of the finest of its kind in the United States.

Investigation of Barber Shops.—The State Board of Health reports to the Senate that on its investigation of barber shops, 1,300 shops studied, 68.7 per cent. were in fair condition, 23 per cent. better, and 1 per cent. ideal. No evidence of the direct transference of disease was found in any case, but numerous opportunities were detected. These may all be removed by strict personal cleanliness of the barbers, supplemented by scalding of shaving utensils immediately before using.

Petitions Introduced in the Legislature.—Many matters of medical interest have been made the subjects of petitions introduced in the present session of the Massachusetts legislature. Among them is one to provide that milk which on analysis is found to contain less than 12 per cent. of milk solids, or less than 9 per cent. of milk solids exclusive of fats, or less than 3 per cent. of fat, shall not be considered milk of good standard. Another from the special commission on tuberculosis, of which Dr. Henry P. Walcott is chairman, provides that tuberculosis be made a reportable disease and that the state shall erect three hospitals for the treatment of tuberculosis, especially of patients in advanced stages of the disease. Another bill in regard to vaccination is presented because "registered" physicians have openly advertised in the newspapers and otherwise that no person is a fit subject for vaccination, and that they will give certificates to that effect to all applicants. In some towns hundreds of persons have availed themselves of this opportunity to evade the law and at the same time to comply with it. It is the intention of the bill to correct this fraud. A fourth bill seeks to eliminate Christian science by defining a practitioner of medicine.

Springfield Academy Formed.—For the past two months a committee, consisting of Drs. W. A. Smith, A. O. Squier and V. J. Irwin of Springfield, O. W. Cobb of Easthampton and J. W. Hannum of Ludlow, has been perfecting plans for the organization of the Springfield Academy of Medicine. Thirty-eight physicians from Springfield, Holyoke, Chicopee, Northampton, Easthampton, Palmer, Monson and Pittsfield met in Springfield, January 24, and ratified the work of the committee by adopting the constitution and by-laws as prepared, and elected the following officers: Temporary chairman, V. J. Irwin; temporary clerk, G. H. Finch; president, J. A. Houston of Northampton; first vice-president, R. H. Seelye; second vice-president, A. O. Squier; secretary, W. R. Weiser; treasurer, W. H. Van Allen; directors, O. W. Cobb of Easthampton, J. W. Hannum of Ludlow, V. J. Irwin, W. A. Smith, F. W. Chapin, E. H. Guild, C. H. Calkins; censors, J. B. Comins, T. S. Bacon, F. B. Sweet, J. E. Marsh, F. S. Ward, J. B. Atwater of Westfield, R. A. Dickson of Holyoke. The capital stock will be $50,000, at $10 per share, and not more than 10 shares will be issued to any one physician. Membership is limited to graduate and resident physicians of reputable schools. Associate members, not stockholders, will be allowed to the number of 50. Five or more members may form a section for special work in any branch of medicine. The directors are preparing to secure a charter and funds for a building. Already $10,000 has been promised.

MICHIGAN.

Bequest.—By the will of the late Frederick Stearns of Detroit the Children's Free Hospital of that city receives $1,000.

Death of Frederick Stearns.—Frederick Stearns, Sr., founder of the firm of Frederick Stearns & Co., manufacturing pharmacists, Detroit, died in Savannah, Ga., January 13, of pneumonia, aged 75.

Medical Examination of School Children.—At a recent meeting, the Michigan State Board of Health adopted a resolution passed by the General Conference of Health Officers, in June, 1905, approving the examination of the eyes and ears of children in the public schools.

Contagious Diseases.—It is reported that influenza is so prevalent in the vicinity of Detroit that a number of the large companies have been considerably crippled.——In Kalamazoo there are more cases of influenza and pneumonia than usual at this season; there are also many cases of measles and chicken-pox.——An epidemic of scarlet fever is reported from Houghton and Calumet.——The epidemic of measles at Lansing is dying out.

Personal.—Dr. Carl S. Oakman, Detroit, has resigned his position as associate editor of the *Detroit Medical Journal* to take a corresponding position on the staff of the *Journal of the Michigan State Medical Society*.—Dr. A. L. McPhee has returned from Texas and Mexico.—Dr. Henry F. Thomas, Allegan, has been appointed surgeon at the Soldiers' Home, Grand Rapids, to succeed the late Dr. H. W. Mills.——The following medical men were elected by the board of directors of the light infantry: President, Lieut.-Col. Julius F. Henkel, brigade surgeon; vice-president, Major Vernon J. Hooper, surgeon; treasurer, Lieut. George H. Palmerlee, assistant surgeon.——Dr. Julius P. Jaeger, who formerly practiced in Detroit, is reported to be insane at a hospital at El Paso, Texas, as a result of an injury to his head received while at Juarez, Mexico. The American consul at Juarez was notified of the case and secured Dr. Jaeger's transfer to El Paso, where he was given care.——Dr. T. A. McGraw and Dr. T. A. McGraw, Jr., Detroit, have gone to St. Augustine, Fla., for convalescence.

NEBRASKA.

Gandy Case Reversed.—The Supreme Court has recently reversed the order of the District Court which convicted Dr. J. L. Gandy on the charge of corrupting a witness. The evidence on which the lower court based its decision is said to have been given by a blackmailer.

NEW JERSEY.

Society Elections.—At the annual meeting of the Atlantic County Medical Society the following officers were elected: President, Dr. E. C. Chew, Atlantic City; vice-president, Dr. Clyde M. Fish, Pleasantville; secretary and treasurer, Dr. W. F. Ridgway, Atlantic City; censor (for three years), Dr. Edward A. Reiley, Atlantic City; reporter, Dr. A. B. Shimer, Atlantic City.——The Atlantic City Academy of Medicine has elected the following officers: President, Dr. E. H. Harvey; vice-president, Dr. Walt Ponder Conaway; treasurer, Dr. Thomas G. Dunlap; secretary, Dr. W. A. Hickman.

NEW YORK.

Hospital Dedicated.—The Ossining Hospital was dedicated January 23. The building, which cost $100,000, was erected in memory of Helen Ward Potter by her husband, Frederick Potter, and his two sisters.

College Alumni Dine.—The twelfth annual dinner of the Albany Medical College Alumni Association was held at the Hotel Marlborough, New York City, January 24. Among the speakers were Dr. Raymond, president of Union College; Dr. Joseph D. Bryant, President of the American Medical Association; Dr. A. Vander Veer, regent of the University of the State of New York, and Dr. George Franklin Shiels.

Bills Before the Legislature.—A bill providing that no apprentice or employé of a drug store shall be allowed to prepare or to dispense prescriptions except in the presence of and under the personal supervision of a licensed pharmacist or druggist. They are not to sell medicines or poisons unless these have been prepared for sale. The attorney general is to institute all actions for the recovery of penalties.——A board of midwifery is provided for a by a bill introduced by Assemblyman Gluck. The New York City health commissioner is

to appoint the board, which is to license all who wish to practice as midwives, after examining the applicants as to their fitness.——A bill regulating the practice of osteopathy, which is in the form of an amendment to the public health law and drawn to meet the objections made against a similar bill introduced last year, has been presented to the legislature. It provides "that no person shall practice osteopathy or advertise himself to hold out as practicing osteopathy after July 1, 1908, unless previously duly licensed by the regents and registered. Osteopaths, when duly authorized and registered in accordance with this bill, shall not be authorized to prescribe drugs or to perform surgery, but the practice of osteopathy as defined shall not be considered the practice of surgery."

Ruling on Defective Death Certificates.—Dr. Eugene H. Porter, state commissioner of health, has sent out notices to physicians, coroners and undertakers, that registrars of vital statistics, justices of the peace or other officers designated to receive death certificates and to issue burial permits are instructed by the department of health to refuse to accept, after Jan. 1, 1907, or to issue a burial certificate, or a death certificate that is defective in any one or more, of the following details:

1. If there is omission of any information asked for on the certificate.
2. If not written throughout in black ink. The use of rubber name stamps, black lead or indellible pencils is unsatisfactory on a public document.
3. If mutilated, illegible and inaccurate.
4. If there is erasure, interlining, correction or alteration of anything printed or written on the certificate. If a mistake is made another form should be filled out correctly.
5. If the stated cause of death is unsatisfactory or calls for additional information.

The New York State Laboratories.—New York State Department of Health conducts four departments for laboratory work: The State Hygienic Laboratory, Albany, in charge of Dr. H. D. Pease and subsidiary to the sewage experimental station at Saratoga; the Cancer Laboratory, Buffalo, in charge of Dr. H. R. Gaylord, and the Bender Laboratory, Albany in charge of Dr. R. M. Pearce. At the State Hygienic Laboratory are prepared the diphtheria and tetanus antitoxins supplied to health officers by the department for use in cases in which these otherwise could not be obtained; here also are made the examinations of suspected sputa for tubercle bacilli, and of nose and throat discharges for diphtheria bacilli; here, too, are conducted the examinations into the purity of specimens of water, food, etc. The cancer laboratory is devoted exclusively to investigations into the etiology of malignant growths. The Bender Laboratory is used in connection with the Sanitary Institute for didactic lectures and laboratory work in the various courses of instruction for health officers and for special investigations.

The New York State Meeting.—Telegraphic reports received from the annual meeting of the Medical Society of the State of New York, held at Albany, January 29 and 30, indicate that the meeting was one of the most successful ever held. The house of delegates discussed the insurance question and instructed the president to appoint a committee to consider the matter. The report of the publication committee, which was unanimously adopted, included recommendations, that the publication of the *New York State Journal of Medicine* and of the Medical Directory be continued and that the protection to members against malpractice and damage suits be also continued, and that the council of the society be instructed to accept no business advertisements of a medical character which do not conform with the rules and requirements adopted by the committee on publication. The report of the secretary showed 5,897 members on Dec. 31, 1906. New members received since January 1 have increased the membership to 5,957. The following officers were elected: President, Dr. F. C. Curtis, Albany; vice-presidents, Drs. Julius Bierwirth, Brooklyn; Edward Torrey, Alleghany, and N. G. Richmond, Fredonia; secretary, Dr. Wisner R. Townsend, New York City; treasurer, Dr. Alexander Lambert, New York City; delegates to the American Medical Association, Drs. D. C. Moriarta, Saratoga Springs; E. H. Bartley, Brooklyn; W. S. Ely, Rochester; A. T. Bristow, Brooklyn, Roswell Park, Buffalo; H. L. Elsner, Syracuse; H. D. Wey, Elmira.

Buffalo.

Measles.—Measles are at present very prevalent in Buffalo.

Personal.—Dr. Charles G. Stockton has sailed for Europe. ——Dr. Charles Van Bergen is in New York.

City Physicians Can Not Charge Fee.—According to a decision of the corporation counsel, no city physician can make a charge when called to treat patients in the various police stations of the city.

Dinner to Dr. Wende.—The Æsculapian club, composed of medical practitioners, is to tender a complimentary dinner to Dr. Ernest Wende, the efficient health commissioner, who has just been appointed to his fourth term in office.

Medical Inspection of Schools.—Under the direction of the health commissioner, Dr. Ernest Wende, and the superintendent of education, Henry P. Emerson, the charity organizations of Buffalo will undertake the medical inspection of public school children, as it is now carried out in New York City. An opinion has been asked by Secretary Almy of the corporation counsel, to ascertain what protection the physicians who are to examine the school children will have in case actions are brought against them by parents who may object to treatment of their children by the physicians in question. In New York City, when this system of inspection was attempted some months ago, there were race riots on the east side of the city, particularly in the Jewish sections.

Abortionist Sentenced.—Dr. William W. Turver, who is reported to have conducted "maternity" institutions in Buffalo for many years, has been adjudged guilty of performing a criminal operation, and sentenced to Auburn State Prison for from fifteen to twenty-seven months. The trial disclosed the fact that the operation was performed on a Philadelphia woman, who saw the advertisement in a paper in Atlantic City. The first trial resulted in a disagreement after the jury was out for many hours, and the jury deliberated ten and one-half hours in this case. The profession should be grateful to the board of censors of the Erie County Medical Society, of which Dr. Henry R. Hopkins is chairman, for their successful crusade on fakers and abortionists. Through their efforts the city has been made too hot for the nefarious business.

New York City.

Public Lecture Series.—At the second meeting of the public lecture series, held at the Academy of Medicine, January 31, addresses were delivered on the following subjects: "The Risks and Safeguards of Public Milk Supplies," Dr. Rowland G. Freeman; "The Milk Work of the Department of Health," Dr. Thomas Darlington; "How Can the Layman Coöperate?" William H. Allen.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended January 19, 450 cases of tuberculosis, with 181 deaths; 313 cases of diphtheria, with 37 deaths; 239 cases of scarlet fever, with 9 deaths; 186 cases of measles, with 6 deaths; 68 cases of whooping-cough, with 9 deaths; 34 cases of typhoid fever, with 12 deaths; 16 cases of cerebrospinal meningitis, with 9 deaths, and 125 cases of varicella, a total of 1,431 cases and 263 deaths.

Report of Mount Sinai Hospital.—At the annual meeting of the directors of this institution President Isaac Wallach, who has served for 30 years, refused to be re-elected and Isaac Stern was elected in his place. The report showed that while the work of the hospital had largely increased during 1906 there was a deficit at the end of the year. The total receipts of the year from all sources were $347.859 and the disbursements $356,720, which left a deficit of $8,860.

Work of Diet Kitchens.—At the annual meeting of the New York Diet Kitchen Association, which furnishes free milk and eggs to the sick poor, it was reported that the association maintains seven kitchens in different parts of the city. During the last 10 months more than 216,000 quarts of milk and 84,000 eggs have been dispensed on requisitions signed by dispensary and other physicians. Dr. Darlington addressed the association on some phases of the city's milk supply problem.

Public Lectures on Problems of Insanity.—The second lecture of this series arranged by the Psychiatrical Society is by Dr. August Hoch of Bloomingdale Hospital, at the Academy of Medicine, Feb. 2, 1907, at 8:30 p. m., on "The Manageable Causes of Insanity," concerning which Dr. Hoch will present the modern facts and views. The aim of these lectures is to arouse in the public a sound interest in questions of mental hygiene, and all who are interested in sociologic work are invited to be present.

For Charity.—Commander Robert Edwin Peary lectured at the Hudson Theater on January 25 for the benefit of the Darrach Home for Crippled Children. The purpose of this lecture will be the support of one child in the home.——Edward T. Devine, secretary of the Charity Organization Society, lectured before the Central Federated Union on the subject of tuberculosis and its prevention. He gave the rules of the soci-

ety and of the board of health.——Dr. James J. Walsh will give a series of six lectures an "Some Women Who Did," for the benefit of the cancerous poor in the Homes of the Servants of Relief.——At the seventeenth annual German charity ball $12,000 was raised, which will go to the German Hospital and Dispensary, St. Mark's Hospital, the German Polyklinik and several other charities.

OHIO.

Jewish Hospital Addition Opened.—The Jewish Hospital of Cincinnati has opened its new addition and is now ready for increased business.

Personal.—Dr. H. A. Rodebaugh has resigned as superintendent of Park View Sanatorium, Columbus, so as to devote his time to the treatment of nervous cases, not insane.——Dr. George M. Waters, dean of Ohio Medical University, Columbus, has returned from a six months' sojourn in Vienna.

Semicentennial of Society.—The Cincinnati Academy of Medicine on March 18 will celebrate the semi-centennial anniversary of its existence. Dr. Byron Stanton, a charter member, will deliver an address, as will also Drs. A. G. Drury and N. P. Dandridge. The academy is the largest and most influential medical society in Cincinnati. About 30 years ago there was dissension and the Cincinnati Medical Society was formed. The differences, however, were happily adjusted about 15 years ago and the two societies were brought together.

PENNSYLVANIA.

Smallpox.—Dr. S. P. Hakes, health officer of Tioga, has established quarantine regulations for smallpox in Wells township, near the Bradford County line. There are said to be 23 cases in the vicinity. The schools have been closed and it is believed that the disease has been running so long that the worst is over.

Coroner's Report.—The report of the coroner of Allegheny County for 1906 shows that 2,660 deaths were reported, an increase of 559 cases as compared with 1905. During the year 74 murders were reported and 151 suicides. Automobile accidents were responsible for 6 fatalities; 75 persons were killed by street cars; 162 by falls; 110 died from accidents in mines; 220 were killed in mills, and 371 by railway accidents.

Principles of a New Pure Food and Drug Law.—Representatives of the retail and wholesale drug trade from all over the state as well as many members of the medical profession at a recent conference at the College of Pharmacy adopted resolutions as to the principles which should be contained in a new pure drug law for Pennsylvania. In many respects the proposed law will be modeled after the national law which has just gone into effect, but it will go further than that in its efforts to guard more effectually the public health and to discriminate against unscrupulous dealers and manufacturers and their methods.

The resolutions were as follows:

WHEREAS, The manufacture or the sale of impure or adulterated drugs, medicines and liquors is fraught with harm to the community and is inimical to the public health, and

WHEREAS, The Senate and House of Representatives of the United States of America in Congress assembled have enacted a law "for preventing the manufacture, sale or transportation of adulterated or misbranded or poisonous or deleterious foods, drugs, medicines and liquors, and for regulating traffic therein; and

WHEREAS, To obviate unnecessary complications and to facilitate the enforcement of the federal law officially designated "The Food and Drugs Act, June 30, 1906," it is desirable that the fundamental principles that are involved be adopted and indorsed by the individual states; Now, therefore be it

Resolved, That we, representatives and members of medical and pharmaceutical associations in the state of Pennsylvania in meeting assembled, recognize the value and importance of rational laws to govern the sale of foods and drugs, and to prevent their adulteration and harmful sophistication; be it further

Resolved, That we endorse the fundamental principles of the federal Food and Drugs Act, and that we recommend the enactment of a measure by the legislature of Pennsylvania similar to that law with the exception named in the next resolution; be it further

Resolved, That we recommend that such a state law be devoid of all unnecessary and vexatious restrictions, and that the preparations of the United States Pharmacopeia and of the National Formulary when sold for medicinal use, and the prescriptions of duly licensed physicians when dispensed and kept on file by a regular licensed pharmacist, be exempt from the provisions of the clause requiring specific labels.

Philadelphia.

Stetson Hospital.—During December 1,711 clinic patients were treated at this hospital. The associate board of women connected with the hospital is perfecting plans for a bazar to be given in February in aid of the hospital work.

Vital Statistics.—A light falling off in typhoid fever is shown by the records of the week published by the bureau of health. Seventy-one new cases have been reported, making the aggregate for the week 374 cases. During the previous week there were 381 cases. The bulk of the new cases are in the northeastern and northwestern sections of the city.

Report of German Hospital.—According to the report of the treasurer of the German Hospital the close of the year shows a deficit of $11,000. It was shown, however, that this was more than covered by state appropriations. Among the most important undertakings of the year was the building of the Nurses' Home, which is practically completed; the cost was $35,000.

Tablet in Honor of Dr. Wood.—The new neighborhood house erected by the University of Pennsylvania Christian Association was formally opened last week. A feature of the program was the unveiling of the brass tablet in honor of Dr. Horatio C. Wood, which was presented by several of his admirers among the medical men of Philadelphia in recognition of his services to the institution.

Hydrotherapeutic Apparatus for Insane Hospital.—Apparatus for administering hydrotherapeutic treatment to the inmates of the Philadelphia Hospital for the Insane is being installed, and it is hoped that it will soon be ready for use. Director Coplin has given the water-cure treatment much study, and several months ago the council made provision for the installation of the necessary apparatus.

Bequests.—Anna C. Griffith has bequeathed $2,000 to the children's medical ward of the Medico-Chirurgical Hospital; $1,000 to St. Clement's Seashore Home, and $2,000 to the Children's Aid Society.——Louis Vanuxem has bequeathed $25,000 to the Jefferson Hospital.——In accordance with the will of Miss Harriett Richards, who died 10 years ago, her executor donated $5,000 for a free bed in St. Joseph's Hospital; a like sum was recently given to St. Mary's Hospital.

University News.—At its January meeting the board of trustees of the University of Pennsylvania approved the recommendation of the medical counsel to increase the requirements for admission to the medical school. According to the plan finally adopted, the requirements will be increased gradually, beginning in 1908 and reaching the maximum in 1910, when two years of collegiate training plus a certain knowledge of biology, chemistry and physics will be required.——The new wing which was recently added to the Maternity Hospital of the University of Pennsylvania has enabled the board of directors to add sun parlors to the nursery and also to the maternity ward, besides giving considerable more space to each of those departments. The new wing is the gift of Mrs. Benjamin F. Clyde of Bryn Mawr, Pa. It is constructed of brick and consists of two stories and basement, and in design it conforms to the original building, which is a simple form of the renaissance. The basement under the new wing contains a heating and ventilating plant and a complete system by which all heated air is filtered and purified before being delivered into the rooms. The nursery and the maternity wards have been equipped with new and modern appliances and furniture.

Society Elections.—At a recent meeting of the Obstetrical Society of Philadelphia the following officers were elected for 1907: President, Dr. Wilmer Krusen; vice-presidents, Drs. F. Maier, G. M. Boyd; secretary, Dr. Frank Hammond; treasurer, Dr. J. W. West; curator, Dr. B. M. Anspach; counsel, Drs. Stricker Coles, L. J. Hammond, M. M. Franklin, John C. Da Costa; publication committee, Drs. William E. Parke, Theodore A. Erck, Stricker Coles, John G. Clark; library committee, Drs. Daniel Longaker and William R. Nicholson.——The Pathological Society of Philadelphia has elected the following officers for 1907: President, Dr. William L. M. Coplin; vice-presidents, Drs. Joseph McFarland, Allan J. Smith, M. P. Ravenel and H. M. Fussel; secretary, Dr. Albert C. Francine; treasurer, Dr. C. Y. White; recorder, Dr. David L. Edsall; curator, Dr. Frank A. Craig; committee on membership, Drs. W. T. Cummins, A. G. Ellis, W. E. Robertson; committee on publication, Drs. David Riesman, A. O. J. Kelly and Joseph McFarland; committee of morbid growths, Drs. M. L. Rosenberger, J. P. Muller, A. A. Eshner, J. Dutton Steele; business committee, Drs. David Riesman, David L. Edsall, W. T. Longcope, Joseph McFarland and J. Dutton Steele.——At the last regular meeting of the Northern Medical Association of Philadelphia the following officers were elected: President, Dr. Samuel H. Brown; vice-president, Dr. Herman A. Brav; corresponding secretary, Dr. Thomas R. Currie; recording secretary, Dr. R. E. Schrom; treasurer, Dr. John W. Millick; librarian, Dr. Robert J. Hess; censor, Dr. H. B. Nightingale.

Pittsburg.

Hospital Opened After Seven Years' Delay.—St. Margaret's Hospital, erected seven years ago by John H. Shoenberger as a memorial to his wife, is about to be opened. The trustees have at last realized a sufficient sum from the real estate in

their care to pay for maintenance of the institution. The hospital will have about 150 beds, 20 of which will be reserved for people suffering with incurable disease.

Asks Appropriation for Inspector and Nurses.—Dr. J. F. Edwards, superintendent of the Pittsburg Bureau of Health, has asked an appropriation of $15,000 to pay the salary of thirty medical inspectors; $3,600 to pay the salaries of four nurses and $1,000 to pay the salary of one head nurse.

Druggists Ask Coöperation of Physicians.—The Western Pennsylvania Retail Druggists' Association has sent a circular letter to the physicians of this city and Allegheny, asking them to unite with the association restricting, so far as possible, unethical prescription writing. To this end they have issued a list giving the Pharmacopeial and National Formulary preparations, which may be substituted, by the physicians, for proprietary preparations of secret formula.

Typhoid Epidemic Every Year.—Statements are widely current in the press that this city is at present in the throes of an epidemic of typhoid fever. Dr. E. G. Matson, city bacteriologist, is reported as saying that this is only true in the sense in which it has been true for at least 34 years. About the middle of July, 1906, he declares, the Bureau of Health began to warn the people against the public water supply, and under a new management has also done a great deal to urge the prompt report by physicians of epidemic diseases. As a result of this change, the physicians who reported 9.2 cases for each death during the first half of this year now report 18.4 for each death. This has involved a considerable increase in number of cases reported, which gives the city the appearance of suffering from a temporary epidemic of typhoid fever. In reality, reported cases are slightly more numerous the last half of the year, while deaths were almost twice as numerous in the first half of the year. The tendency to report cases more fully than hitherto began abruptly with the third week in July and has been maintained ever since.

TENNESSEE.

Society Elections.—The Rutherford County Medical Society met at Murfreesboro, December 5, and elected Dr. William C. Bilbro, Murfreesboro, president; Dr. Harry C. Rees, Murfreesboro, vice-president; Dr. Rufus Pitts, Murfreesboro, secretary-treasurer; Dr. James B. Murfree, Sr., Murfreesboro, delegate to the state medical association; Dr. Enoch H. Jones, Murfreesboro, alternate, and Dr. George W. Crossthwaite, Florence, censor. At the meeting of the society, December 19, the committee appointed for the purpose, made a report requesting that each practitioner of medicine in the county make a schedule of prices for his services in each community or district of the county, and pledge himself to abide by this schedule, and deprecating any cutting of prices.——The Dyer County Medical Society held a meeting at Newbern, December 6, and elected the following officers: Dr. Robert A. Burke, Dyersburg, president; Drs. C. B. A. Turner and Edward T. Haskins, Tatumville, vice-presidents; Dr. A. F. Cooper, Dyersburg, secretary, and Dr. William P. Watson, Dyersburg, treasurer.——At the meeting of the Humphreys County Medical Society, held in Waverly, December 17, Dr. William W. Slayden, **Waverly, was elected president**; Dr. James T. Cooley, Plant, vice-president, and Dr. James J. Teas, Bakerville, secretary-treasurer.——The Chattanooga Medical Society held its annual meeting January 4 and elected the following officers: Dr. George R. West, president; Dr. Hiller P. Larimore, vice-president; Dr. James H. Atlee, secretary, and Dr. Samuel Yarnell, treasurer.

TEXAS.

Society Elections.—The Hunt County Medical Society held its annual meeting at Greenville, December 18, and elected the following officers: President, Dr. A. B. Moore, Neyland; vice-president, Dr. A. S. McBride, Lone Oak, and secretary-treasurer, Dr. D. Richard Waddle, Greenville.——At the annual meeting of the Navarro County Medical Society, held in Corsicana, December 18, Dr. William T. Shell, Corsicana, was elected president; Dr. David B. Currie, Kerens, vice-president; Dr. Thomas V. Fryar, Corsicana, secretary; Dr. Homer B. Jester, Corsicana, treasurer, and Drs. Thomas A. Miller and Leslie E. Kelton, Corsicana, and Dr. Jere. P. Worsham, King Willow, censors.——The Colorado County Medical Society held its annual election at Columbus, December 26, with the following result: Dr. R. H. Harrison, Jr., Columbus, president; Dr. Charles A. Williamson, Columbus, vice-president, and Dr. G. A. Foote, Rock Island, secretary-treasurer.——At the annual meeting of the Jefferson County Medical Society, held in Beaumont, December 18, Dr. Henry A. Barr was elected president; Dr. Abner A. Bailey, vice-president; Dr. Robert R. Sullivan, secretary-treasurer and delegate to the state association; Dr. Henry A. Barr, alternate, and Dr. William T. Williams, censor, all of Beaumont.——The officers of the Webb County Medical Society met at Laredo, December 22, and elected the following officers: Dr. A. W. Wilcox, president; Dr. William W. MacGregor, vice-president; Dr. Edmond H. Souvignet, secretary-treasurer; Dr. Henry J. Hamilton, censor; Dr. John T. Halsell, delegate to the state association, and Dr. Willis E. Lowry, alternate, all of Laredo.——The Limestone County Medical Society held its annual meeting at Mexia, January 3, and elected Dr. Blalock, Thornton, president; Dr. Thomas F. Oates, Mexia, vice-president; Dr. Stone, secretary and treasurer, and Dr. Reuben B. Jackson, Mexia, delegate to the state association.

UTAH.

Society Elects Officers.—The annual meeting of the Ogden Medical Association was held January 16, and the following officers were elected: President Dr. Ezra Rich; vice-president, Dr. J. S. Gordon; secretary, Dr. E. H. Smith; treasurer, Dr. W. J. Browning.

Smallpox Epidemic.—It is reported that smallpox is alarmingly prevalent in Emery County, and that many of the schools have been closed indefinitely pending the outcome of the situation. There are also many cases of scarlet fever and measles in the same locality.

State Medical Society Asks for Legislation.—The Utah State Medical Society, at a meeting held in Salt Lake City, January 16, decided to recommend to the legislature that laws should be enacted prohibiting the marriage of first cousins, persons having infectious diseases, imbeciles, epileptics and other defectives; granting to the State Board of Health power to revoke the license of any physician found guilty of performing criminal operations; and an act allowing the University medical school to secure the bodies of criminals and paupers for anatomic purposes. The bill in regard to marriage, proposed by Dr. Beatty, secretary of the State Board of Health, is to be framed after the Indiana law.

Prevention of Infectious Diseases Among Children.—Dr. T. B. Beatty, secretary of the State Board of Health, in an address to the principals of the Salt Lake City public schools, dealt with the need of legislative measures for the prevention of disease in the schools. He called attention to the fact that many pupils who appear dull and listless in school are, in reality, bright children; the apparent mental deficiency being due to defects in sight and hearing. He also spoke of adenoids, which may affect both eyes and ears. He emphasized the necessity for inculcating into the minds of the children of to-day the fundamental facts regarding the cause and prevention of disease in order that they may in time become able to cope successfully with the insanitary conditions which breed disease. Dr. Beatty spoke also of the need for a school for the feeble-minded in Utah, and said that teachers should take a census of such pupils attending the public schools.

Proposed Medical Practice Act.—A new medical practice act is before the Utah legislature which differs in several material points from the one at present on the statute books. The proposed bill defines a medical college in "good standing" as one in which the requirements are in no particular less than those prescribed by the Association of American Medical Colleges. Reciprocity is provided for, it being a prerequisite that the applicant's license was obtained in a state where the requirements were equal to those of Utah at the time such license was granted. In the section defining the practice of medicine, the bill exempt those "who heal only by spiritual means without pretending to have a knowledge of the science of medicine." This concession has been granted by the framers of the new bill because previous opposition on the part of the Mormon church and the Eddyites have made the passage of an up-to-date medical practice act an impossibility. Healing the sick by spiritual means is one of the tenets of the Mormon faith, whose adherents are said to comprise fully two-thirds of the inhabitants of the state, and it was feared that any bill which ran counter to the teachings of that church would be killed.

County Medical Society Meeting.—At the annual meeting of the Utah County Medical Society, held in Provo, December 26, the following officers, who had held over from last May, were re-elected under the provisions of the new constitution and by-laws: Dr. Robert E. Steele, Lehi, president; Dr. George E. Robison, Provo, vice-president; Dr. Frederic Clift, Provo, secretary and treasurer; Drs. David Westwood, John W. Aird and Fred W. Taylor, all of Provo, were re-elected as censors. Drs. George E. Robison, Provo; Fred W. Taylor, Provo; J. Franklin Noyes, American Fork; and Frederick D. Dunn, Springville, were elected as delegates to the state

association, with Drs. John W. Aird, Provo; James M. Henry, Payson; Robert E. Steele, Lehi; and Heber E. Robinson, American Fork, as alternates. The committee on medical legislation endorsed the pure food law; the enactment of a law similar to that now in force in North Dakota, regulating the sale of medicines, food, etc.; the action of the State Board of Health in starting a movement for the establishment of hospitals for epileptics and the feeble minded; the enactment of a law that a receiving hospital be established for the admission of all patients in whom insanity is charged, that such patients should be detained there for at least thirty days, unless an order for their removal to the State Mental Hospital to Provo, is issued by the State Board of insanity on application of the officers in charge of the receiving hospital. The question of fees for insurance examination was also discussed and the following resolution was adopted: "This society desires to be placed on record as favoring the adoption by the state medical association, at the forthcoming special meeting, of a resolution asking all members of the profession in the state to unite in resisting the reduction in insurance examination fees and pledging its members to make no medical examination for insurance companies in the respective districts covered by county societies, except on the basis of fees determined on by the local society."

GENERAL.

Professor Schott Visits the United States.—Prof. Theodore Schott of Nauheim, Germany, is visiting this country and has lectured in Cincinnati, Boston, Chicago and elsewhere on the Schott method of treating heart diseases.

Anglo-American Medical Association Election.—At the annual meeting of this association, held in Vienna, the following officers were elected: President, Dr. R. P. Scholz, St. Louis, Mo.; vice-president, Dr. C. L. Simpson, Chicago; secretary and treasurer, Dr. H. H. Stach, Berlin, Germany.

Little Cholera in Manila.—Dr. V. G. Heiser, chief quarantine officer, reports that a peculiarity of the few scattering cases of cholera that have occurred in Manila recently is the fact that they were found only among Japanese fishermen. There has also been a decided improvement in the cholera situation in the province of Iloilo. The rumor of the presence of the disease in Catubig, Samar, was confirmed.

Offer Prize for Essay.—A prize of $100 is being offered by the Mississippi Valley Medical Association for the best essay on some medical or surgical subject. Only those are eligible who at the time of entering the competition are members in good standing of that association. All essays must be typewritten, and are to be sent to Dr. Henry Enos Tuley, 111 West Kentucky Street, Louisville, Ky., by Aug. 1, 1907.

Laryngological, Rhinological and Otological Society.—A meeting of the southern section of the Laryngological, Rhinological and Otological Society will be held in Louisville, at the Seelbach Hotel, February 25, under the chairmanship of Dr. J. M. Ray. A number of representative men from different parts of the country have promised papers. All nose and throat men throughout the South, whether members of the association or not, may attend the meeting.

Missouri Valley Excursion to A. M. A. Next June.—The Medical Society of the Missouri Valley, through its secretary, Dr. Charles Wood Fassett, St. Joseph, Mo., has already arranged for its annual excursion to the session of the American Medical Association. The attending members will go by special train over the Big Four and Chesapeake & Ohio, stopping at White Sulphur Springs, Va., and visiting the Jamestown exposition; thence by boat to Baltimore, and from there to Philadelphia and Atlantic City.

Women Food Inspectors.—Women may take the civil service examination as food and drug inspection chemists, to qualify for appointment in the bureau of chemistry of the Department of Agriculture, under the new national pure food law. The original announcement limited the examination both for chief inspector, at $3,000, and for ordinary inspectors, at $2,000, to men, leaving scientifically educated women out in the cold. The examination is scheduled for February 5 at regular examination points. The candidates will be examined in general and analytical chemistry, including the examination of foods or of drugs and translation of chemical French or German into English, and will be rated on education and experience.

Walter Reed Army General Hospital.—On Dec. 28, 1906, ground was broken for the new Army General Hospital to be erected in Washington, D. C. The site comprises an area of about 43 acres very advantageously located in the northern part of the city, and admirably adapted for the purpose in view. The new hospital is to replace the old one now located at Washington Barracks, D. C. The large area of ground which has been acquired will afford suitable sites for the erection of an academic building for the Army Medical School, for barracks for the hospital corps company of instruction, and for such other buildings as may from time to time become necessary. In time of war space will also be available for a large temporary expansion to serve the purposes of a base hospital. The hospital is to be on the pavilion plan and in the colonial style of architecture. With the present appropriation of $200,000 it is planned to erect only the central building, which, together with the administrative offices, kitchens, dining room, operating room, etc., will have a capacity for seventy-five patients. It is hoped to have here ultimately in one group a complete educational institution for the medical department of the Army including the general hospital, Army Medical School, hospital corps company of instruction, and library and museum of the surgeon general's office.

CANADA.

A New Medical Journal.—The first issue of the *Western Canada Medical Journal*, which has just been received, must commend itself to all those interested in clean medical journalism. The magazine, edited and published in Winnipeg, has been founded to fill a need long felt of a means of communication between the members of the profession in Western Canada. The advertising pages are few, but are free from objectionable matter, and in the editorial foreword the statement is made that the management is "resolved to give space to no advertisement that would not be in keeping with a high-class medical journal." The mechanical work of the publication is excellent and the reading pages are a credit to those connected with the journal.

FOREIGN.

Institute for History of Medicine.—It is reported that the Vienna university is to found an institute for the history of medicine, to be in charge of Professors Neuburger and von Töply.

Fined for Slandering a Physician.—A midwife at Magdeburg, Germany, was recently fined $75 by the local court for asserting that a certain physician undertook obstetric maneuvers without disinfecting his hands sufficiently.

Penalties for Insurance of Young Children in Belgium.—The Belgian parliament has recently passed a law declaring annulled all contracts for the payment of a certain sum in case of death of children less than 5 years old, or in case of still-born infants. Every agent, inspector, director or solicitor of a contract of this kind shall be fined from $5 to $100.

Typhoid in Ireland.—A serious outbreak of typhoid is reported at Jordanstown, on the west side of Belfast Lough, due, it is said, to contagion by milk, while at Holywood, on the east side of the same lough, there is also a typhoid epidemic, which has been shown to be caused by permeation of the surface soil in the affected areas from sewage matter, due to defective joints in the sewers.

Inspection of School Children in Tasmania.—The Tasmanian government has approved of the scheme submitted by the director of education for complete medical examination of all children attending state schools. Local physicians will be appointed at Hobart and Launceston, to inspect the children and to advise the teachers, and a woman physician will be engaged as a permanent member of the education staff, to visit all schools where the services of local physicians are not available.

To Reduce Infant Mortality.—The city of Glasgow, Scotland, is in one respect following the example set by the mayor of Huddersfield, Eng. In one of the most densely populated parts of the city bills have been posted stating that with a view to assist in the reduction of infant mortality, the committee of the Anderston and District Health Association offers a gift of $5 to the mother of each child born between January 1 and June 30, 1907, provided that the child survives the first year after birth.

Medical Attendance on Physicians' Families.—The physicians in Saxony during the last three years have made a practice of sending to the fund for the relief of aged physicians or to the widows' and orphans' fund the sum that they would have to pay for medical treatment if the attending physician charged them for his services to themselves or their families. It is sent as coming from the attending physician as a "kollegialisches Honorar-Geschenk," and the relief funds benefit annually by the practice to the amount of several hundred dollars. The practice has been found very acceptable to all parties, according to a notice in the *Cor.-Bl.* for December 15.

School Hygiene in Turkey.—The minister of public instruction in Turkey, according to the Constantinople correspondent of the *Lancet*, has taken energetic measures to improve the hygienic and sanitary conditions of the public schools of that city. Many schools were found to be unheated in winter, the children thus being exposed to cold and frequently suffering bitterly in consequence. Some schools also were found to be overcrowded, damp, and without proper lavatories. The inspectors and medical men whose duty it was to visit the schools and to report such conditions had neglected to do so, and they are to be dismissed and their places filled with more conscientious men.

Festschrift for von Schrötter of Vienna.—On February 5 a *Festschrift* is to be presented to Prof. L. von Schrötter of Vienna, the eminent internist and laryngologist, on his seventieth birthday. His principal works have been devoted to affections of the throat and chest, and to him is credited the first idea of special systematic sanatorium treatment of tuberculosis, as set forth in his work entitled "The Diseased Hospital," 1883. He is the son of the chemist who discovered amorphous phosphorus, and he was one of the first to recognize and teach the importance of laryngoscopy. He is a member of the prominent laryngologic associations of the world, and has always taken a prominent part in tuberculosis congresses, etc.

"Biologically Thinking Physicians."—Several years ago an association was organized in Germany for the purpose of "counteracting the present tendency of scientific medicine toward too exclusive consideration of bacteriology." The great problems of general biology are said to have been neglected owing to this one-sided tendency of late years, and the association was formed to direct attention more to pathology from a general biologic standpoint. The association does not maintain a separate organ, but physicians who are interested in the subject will receive the bibliography of the literature of this department of research if application is made to Dr. Esch of Bendorf, a. Rh., Germany, according to a notice in the *Allg. med. Ct.-Ztg.*

International Course for Medicolegal Psychology and Psychiatry.—A special course for jurists and physicians interested in medicolegal questions in psychiatry is to be held at Giessen, Germany, April 15-20, 1907. It is also designed for officials connected with penitentiaries, reformatories and similar institutions and also the police, who often have to deal with the mentally unbalanced. Sixteen lectures are included in the course, which is in charge of Sommer at the clinic for nervous and mental diseases. Among the subjects proposed to be treated will be the "Born Criminal," "Epilepsy as a Factor in Criminality," "Medicolegal Examination from the Psychologic Standpoint," "Psychology and Psychopathology and the Police System," etc.

Grants by a Scottish Corporation for Medical Objects.—The special subcommittee of the Glasgow corporation, which was appointed to deal with the various applications for grants from the "Common Good Fund," has decided to recommend the following grants: $5,000 yearly for three years to the Royal Hospital for Sick Children, toward the cost of the proposed new hospital, on the understanding that the directors choose a site satisfactory to the finance committee of the corporation; $2,500 yearly for three years to the Glasgow Cancer Hospital, toward the cost of the proposed extension of the hospital and research department; $1,500 yearly for three years to Anderson's College Medical School; $250 to the National Society for the Prevention of Cruelty to Children.

Two-Hundredth Anniversary of the Senckenberg Endowment at Frankfurt.—February 29 will be the two-hundredth anniversary of the birthday of Dr. J. C. Senckenberg who presented the city of Frankfurt a. M. with a large endowment for scientific and hospital purposes. Libraries, hospitals, assembly halls, prizes, etc., have been provided by the endowment, and several of the buildings have been recently replaced by modern ones. The library building is adorned with portraits of all the local medical celebrities during and since his day, a collection unique in its way and of great local interest, a historical portrait gallery extending back to 1638. The committee in charge of the celebration of the bicentennial is making an effort to supplement the collection of portraits with a historical collection of everything pertaining to local medicine and the biography of local members of the profession.

Number of Physicians in Germany.—An article in the *Deutsche med. Wochsch.* cites recent statistics to show that the number of physicians in the German empire has decreased in proportion to the population during the last two years. The total number is now 31,346, or 5.1 per 10,000 inhabitants. The number of specialists shows a great increase during the last few years, which is regarded as an evil in some ways. The medical socities are cautioned against allowing their members to assume the title of specialist without just foundation, and young physicians are warned against the notion that a specialty is an easy road to success. This idea has no basis now-a-days, as the specialties are being overcrowded, and those physicians only can count on success who have had years of all-around, thorough and careful preparation for the specialty, with a distinct aptitude for it. In some of the German cities the specialists form from a third to a half of the total number of physicians.

Surgery as a Vaudeville Show.—Torkel of Breslau writes to the *Deutsche med. Wochschr.* to protest against what he saw at a kinetoscope show at Freiburg, which included the moving picture representation of several major operations as performed by a well-known surgeon. The operations were resection of the knee, puncture of the brain after wide opening of the skull, and a vaginal total hysterectomy, "done on a naked woman," as the barker at the door proclaimed, naming the surgeon. The vaginal operation was accompanied by extensive hemorrhage, and several persons left the theater in horror. He adds that such representations are no aid in medical instruction owing to the rapidity and haste of the movements, and that their presentation in public is not only demoralizing to the young, but gives a completely distorted picture of the work of the surgeon, picturing it as a barbarous rushing through the task. He urges the authorities to interfere and forbid the presentation of pictures of this kind. He does not condemn the surgeon by name, but it will be recalled that Doyen of Paris has presented before scientific societies moving pictures of some of his operations, and that he recently brought suit against the photographers for reproducing the views without his permission, obtaining damages and an injunction against their further use in France.

LONDON LETTER.

(From Our Regular Correspondent.)

LONDON, Jan. 2, 1907.

Strike of Medical Students in Calcutta.

The great bulk of the Bengali students in the Campbell Medical School, Calcutta, numbering about 160, went out on strike at the end of October. The alleged grievances were so flimsy that it is thought that the action was inspired by political agitators. A large hospital is attached to the school and it was thought that the patients would suffer from the absence of the students, but this has not occurred, owing to the existence of a large supernumerary staff and to the devoted labors of nurses, teachers and others. The strikers seem to have thought that they would be admitted to the other medical colleges of the city, but they were refused at the Calcutta Medical School and at the College of Physicians and Surgeons. The few students who remained at the school have been subjected to great pressure to join the strikers, and some of them have been in such bodily fear that they have not ventured away from the hospital grounds. After the strike had lasted nearly a fortnight, Major J. C. Vaughan, I.M.S., the superintendent, issued a notification that the time fixed for returning to work having expired, he had decided, with the approval of the government, to close further negotiations with the students. He had already dismissed from the school thirteen ringleaders of the strike. Students desiring readmission must make application and each case will be considered on its merits. No one will be admitted during the current year unless the circumstances seem to warrant the exercise of clemency on his behalf and unless there is reasonable chance of his completing the studies apportioned for the year.

VIENNA LETTER.

(From Our Regular Correspondent.)

VIENNA, Jan. 9, 1907.

The New Tables of Expectancy for Life-Insurance Companies.

The results of a very interesting and important investigation, conducted by the united Austrian life-insurance companies, have just been published, and form the basis for new tables of life expectancy for the married, the single and the abstainers. Between 1875 and 1901 the death of every insured person was recorded, a total of 618,455 persons. Of this number, only 88,213 were women. The figures show that the life expectancy of total abstainers is by 8½ per cent. better than for non-abstainers. The scientific value of the investigations is great, because they prove that in spite of the sanitary improvements effected within the last quarter century, and in spite of the reduced death rate in the larger modern towns, the number of persons still alive, if compared with the "Baumann Süssmilch" tables compiled sixty years ago, does not differ materially The explanation is not easy, but the

fact remains, and the difficulty of accounting for it rests with the statisticians.

Massage by Unqualified Persons.

The last meeting of the Vienna "Aerztekammer" (medical council) dealt with the question of regulating the practice of massage by other than medical men. Several cases of dangerous injuries, caused by such had been before the courts lately, and the moment was well chosen to bring the question up for discussion. The abuse of the title "masseur" is very frequent here, as all sorts of quacks, who profess to do "bloodless surgery" and the like, are apt to use the title of "masseur" in order to escape prosecution, and as it can be assumed without asking anybody, it forms a very good protection against unwelcome inquiries by the police. Therefore, the Vienna "Aerztekammer" resolved to present to the government a petition, stating the facts of the case, with suggestions how to better the present state of things. The following is the idea: Only such persons as have passed the ordinary training schools for nurses are to be allowed to apply massage and only under supervision of a medical man. The schools are to be conducted in such a way as to ensure a proper knowledge of the chief chapters of anatomy and physiology, the elements and principles of massage, the taking of temperature and all other things pertaining to the nursing of patients. The title of "masseur" is to be abolished and only the denomination, "qualified nurse," to be allowed. In all hospitals, baths, health resorts, etc., where massage is employed on a large scale, a doctor must be present at least at the first sitting, to control the advisability or otherwise of the procedure. The resolution was dopted after a lengthy discussion, but it is difficult to see how such academic resolutions can counteract the effect of the misunderstanding on the part of the public.

Correspondence

The Medical Society of the County of New York.

NEW YORK, Jan. 23, 1907.

To the Editor:—On page 236 of THE JOURNAL for Jan. 19, 1907, among items grouped under the head of New York City is one which states as follows:

> The by-laws of the Medical Society of the State of New York, just published, show that the membership in the year 1806 was 371, while in the year 1906 it was 2,303.

This, I presume, is a misprint as it is not in accordance with fact. The by-laws issued and above referred to were those of the Medical Society of the County of New York, which had its origin in New York City, Nov. 14, 1794. It was then called the Medical Society of the State of New York, which name it retained until 1806, when it was incorporated under the laws of New York State, but the name was changed by the vote of the society to the Medical Society of the County of New York, and its first meeting after incorporation was held on the first Tuesday of July, 1806, with a membership then of 371. The membership at the end of 1906 was 2,303.

The Medical Society of the State of New York was incorporated in 1806 at Albany, and no member of the Medical Society of the County of New York was present at its organization. Its membership to-day is 5,911.

The organization which had its origin in New York County Nov. 14, 1794, has a consecutive history until to-day, although the name was changed as stated above; but as its plan of organization did not change and as the same officers held over, and as the change of name was made by unanimous vote of the society at the meeting last preceding the Medical Practice Act of 1806, it is beyond question that this is the Medical Society of the County of New York as at present existing.

The Medical Society of the State of New York, which had its origin in Albany in 1806, and whose plan of organization was entirely different from the New York County organization, and at the origin of which no member of the Medical Society of the County of New York—in fact, no representative from the city or county of New York was present—is the Medical Society of the State of New York as it exists to-day.

JOHN VAN DOREN YOUNG,
Secretary, Medical Society of the County of New York.

Pharmacology

LIQUID COMBINATIONS CONTAINING PEPSIN AND PANCREATIN.

Report of the Council on Pharmacy and Chemistry of the American Medical Association.

The following report was submitted to the Council by a subcommittee:

To the Council on Pharmacy and Chemistry: The U. S. Pharmacopeia, 8th revision, page 334-5, states: "Pepsin and pancreatin in solution are incompatible with one another. If the solution be neutral or alkaline the pancreatin gradually destroys the pepsin, and if acid the pepsin destroys the pancreatin." The correctness of this statement has been amply demonstrated by the reports which have been submitted to the Council from time to time on liquid preparations claimed to contain these two ferments.

Thus an elixir was investigated which was by the manufacturers claimed to contain "the five active agents of digestion, pepsin, veg. ptyalin, pancreatin, lactic and hydrochloric acids," and to be "superior to all other remedies in dyspepsia and diseases arising from imperfect digestion," and the committee which investigated the article in question reported that "it was impossible to establish the presence of either the proteolytic or the amylolytic ferment."

Similarly, on another liquid preparation, which was said to contain "pancreatin, pepsin, lactic and muriatic acids, etc." . . . "the combined principles of digestion to aid in digesting animal and vegetable cooked food, fatty and amylaceous substances," the commitee reported "this product possessed only very slight proteolytic action and failed to digest 2 per cent. of its own weight of starch."

Again, the report on still another preparation stated: "But while it was said to contain pancreatin, the U. S. P. test for the valuation of pancreatin failed to indicate this ferment."

The report on yet another elixir, claimed to be "the only true digestant, because it contains the enzymes of all the glands which are necessary for digestion," showed that this article did not contain "any appreciable enzyme activity, either amylolytic or proteolytic."

The correctness of these findings of the committee of the Council was generally acknowledged by the manufacturers when their attention was called to the matter. Thus, one manufacturer of digestive ferments writes: "We will ask you to hold this matter up until you hear from us further on the subject. The reason for this request is that we have been going over our liquid preparations very carefully in order to be sure that after ageing they would contain the ferments that we put into them. The pancreatic ferments in alcoholic liquids seem to lose their strength."

The chemist for a large manufacturing house writes: "There are now on the market a number of preparations in which pepsin and pancreatin are combined in liquid form, and the result is that we have had numberless requisitions from our representatives that we also market such a liquid preparation. As the result of this we have carried out a series of experiments no less than four or five times in order to determine whether pepsin, diastase, and pancreatin would retain their activity in the form of a syrup, wine or elixir. We have proven incontrovertibly that this can not be done. While any two of these substances, or even all three of them, can be dispensed in the form of a liquid by the retail druggist and will retain their normal activity for as long a period as three to six weeks, yet if allowed to stand sufficiently long, tney mutually destroy each other; so that in a combination of pancreatin and pepsin the pancreatic enzyme is lost and the pepsin greatly injured, and where diastase is present, both diastase and pepsin (or diastase and pancreatin) mutually destroy each other."

Since it has been demonstrated that pepsin and pancreatin can not exist in one and the same solution for any reasonable length of time, it becomes apparent that liquid preparations said to contain these two ferments are sold under impossible claims. It is therefore recommended:

1. THAT THE COUNCIL ON PHARMACY AND CHEMISTRY REFUSE TO APPROVE LIQUID PREPARATIONS THAT ARE CLAIMED TO CONTAIN BOTH PEPSIN AND PANCREATIN.

2. THAT THE MEDICAL PROFESSION THROUGH THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, BE ADVISED OF THE FALLACY OF EMPLOYING SUCH COMBINATIONS.

3. THAT THE ATTENTION OF MANUFACTURERS BE CALLED TO THE WORTHLESSNESS OF SUCH INCOMPATIBLE LIQUID PREPARATIONS OF PEPSIN AND PANCREATIN, AND THAT THEY BE URGED TO CEASE OFFERING SUCH PRODUCTS TO THE PROFESSION.

4. THAT, SINCE THE NATIONAL FORMULARY HAS RECOGNIZED A PREPARATION OF THIS KIND UNDER THE TITLE "ELIXIR DIGESTIVUM COMPOSITUS," THE AMERICAN PHARMACEUTICAL ASSOCIATION BE REQUESTED TO INSTRUCT ITS COMMITTEE ON THE NATIONAL FORMULARY TO OMIT THIS PREPARATION FROM THE NEXT EDITION.

The recommendations of the subcommittee were adopted by the Council and publication of the report directed.

W. A. PUCKNER, Secretary.

Nostrum Advertisements in Religious Papers.

That the fight against nostrum advertisements was begun by lay periodicals is not creditable to medical journalism, and that some of the tardiest papers to come into line, in the fight for decency and honesty, are the official organs of some of the churches is a sad commentary on our Christian civilization. This attitude of the various religious and semi-religious publications is interesting.

THE ALABAMA BAPTIST.

Some, among them the *Alabama Baptist*, have discontinued advertisements known to be fraudulent and will get rid of others as soon as the contracts expire. The editors, as a rule, are not competent to judge of the merit of an article of a medicinal nature, or of appliances for the cure or alleviation of disease, even if they were consulted concerning them, and the responsibility for the insertion of these advertisements lies with the advertising manager.

In the journal mentioned above there appears[1] a letter from Dr. H. E. Mitchell, in which he refers to an editorial in that publication praising *Collier's Weekly* and says, that as he knows the composition of many "patent medicines" he feels it his duty to emphasize the statements made by Mr. Adams in *Collier's*. Dr. Mitchell calls attention to the fact that some of the most "harmless" remedies contain such a large percentage of alcohol that if taken regularly they will create not only a habit for the remedy but will finally lead the individual taking them to a stronger and more powerful stimulant—whisky. The letter goes on to state: "No man should be guilty of taking or giving to a member of his family any drug or nostrum unless he knows its contents, or unless it has been prescribed by a competent physician."

This letter called forth an editorial in the same issue, from which we quote:

Ever since our attention was called to some advertisements which we were carrying, by a member of the Jefferson County Medical Association, we have quietly been letting them drop as the contracts expired, and from week to week we have turned down many that would have paid us handsomely. We are still carrying some which will not appear again in the columns of the paper as soon as the contracts expire. . . . We do not mean that we expect to exclude all "patent medicine" advertisements, for we hold that some are perfectly legitimate, but we do mean to try to keep out any and all that have been or will be exposed as dangerous or fraudulent. . . . To adhere to our policy will mean a loss of several thousand dollars a year, which means much hard work and sacrifice on our part, but no amount of money will cause us to swerve from what we believe to be right. . . .We believe that up to date only four people have written or spoken to us about the matter. We do it of our own motion, for we do not care to be a party to anything which is hurtful to the health of our readers. We believe that the "drug habit" is a vicious one and we counsel all who feel the need of being dosed to call in a reputable physician. This editorial would have been put off indefinitely but for the fact of a letter from Dr. Mitchell, which we publish elsewhere.

THE COLUMBIAD.

Another journal which has fallen into line in the fight for decency is the *Columbiad*, the official organ of the Knights of Columbus—a Roman Catholic fraternal order. This magazine had its attention drawn to a "patent-medicine" advertisement it was carrying, which, while not one of the most objectionable, still made claims that were clearly exaggerated and false. As soon as the magazine was notified, the medicine company was asked to release the publishers from their contract. This they consented to do.

As distinguished from the evident desire to place the editorial and business departments on the same ethical basis as is shown above, the case of the *Cumberland Presbyterian* is to the point.

THE CUMBERLAND PRESBYTERIAN AND "PATENT MEDICINES."

Some months ago we published[2] resolutions adopted by the Miami Presbytery and addressed to the General Assembly of the Cumberland Presbyterian Church, condemning the publication of "patent medicine" advertisements in church papers and directing that the board of publication of the *Cumberland Presbyterian* refuse all advertisements of a medical character, unless they are first approved by a board composed of three physicians selected for their high standing, eminent qualifications, experience and integrity.

These resolutions were introduced by the moderator of the presbytery at Lebanon, Ohio. Under date of Oct. 12, 1906, Dr. B. H. Blair of Lebanon, Ohio, wrote to the Rev. James E. Clarke, editor of the *Cumberland Presbyterian*, calling his attention to the fact that the time for renewing contracts was approaching and asking if it was not possible to reject all medical and other advertisements of a fraudulent nature. The Rev. Floyd Poe, pastor of the church which Dr. Blair attends, also wrote to Mr. Clarke. He said in part:

I am very much dissatisfied with the tardiness which the management of our paper is showing in the matter of cleaning up her advertising. Please do not think me too presumptious when I say that I have reached the point in my moral and nervous development where the advertising carried in our religious papers gives me a shock every time that I open them. I do not claim to have a degree of moral sensitiveness that *you* have not, but I do not understand how it is that *you* with your ideas of right and wrong can stand for the line of medical advertisements that our paper carries, in the light of the revelations of to-day. It may be that I am unduly wrought up because I know from close scrutiny of the frauds that are perpetrated by these sharks, but I am deliberately forced to the conclusion that the whole scheme is wrong, and any one who lends aid to them is in the wrong.

Now, every honest preacher is placed in the position of an agent or representative of his own publishing house. I stand in that position willingly to-day. But the position is growing embarrassing. I have an officer in my church who is president of one of the biggest fair associations in this state. At my request he positively forbade all "bunco and skin games" the use of his grounds during the last fair, and it was thus advertised, and proved the biggest success ever. The people will endorse the right. Now what shall I say to that man when he asks me this question: "Pastor, why does not our religious weekly, the official organ of our church, which is supposed to stand for all that is right and honorable, clean up its advertisements and forbid all the medical 'bunco and skin games' the use of its columns?" Or this other case: Two of my boys, sons of one of my elders, had the privileges of publishing the fair program this fall, and by securing advertisements make a nice sum of money out of it. There were applications by saloons and breweries for about $50 worth of space, but those boys had read enough to see the wrong, and had courage enough to say "No." And for the first time in its history the fair programs had no saloon or brewery advertisements. Now those boys are reading *Collier's, Ladies' Home Journal, Success*, Pure Food Laws, etc., and what shall I say to them when they put this at me: "Pastor, we believed in a clean fair program and admitted no questionable advertisements, now what is the matter with our church paper, that it will not omit questionable advertisements from its pages?" Truly people are making this a reading and thinking age. Place yourself in the position of a pastor and then tell me what you would say to such questioners.

But probably the question at this moment in your mind is this: "Why do you not show me what are the questionable advertisements we are carrying?"

In answering this question let me kindly suggest that it is not the ethics for the profession of the law for a *reputable and safe lawyer to advertise*. He may put his card in the paper, but he does not advertise "Divorces granted without fail"; or, "Indemnity from the effects of your crime guaranteed." No reputable lawyer will do this, and no one knows this better than the lawyers themselves.

Again, *no reputable and safe minister of the gospel will advertise*. He may invite you to services, but he will not say that he is the best preacher in the town or state; that he can marry to stay married, that he has the only true plan of salvation. It is contrary to the ethics of the profession, and no one knows this better than the ministry, of which high class you are one.

The same rule and law of ethics holds true in the medical profession. *No reputable and safe physician advertises*. A member of the profession in good standing does not say to the world, "I have the only cure for catarrh" or "I have the only knifeless remedy for cancer," or "I alone have solved the great consumption mystery." The very fact that some men are thus speaking through

1. Alabama Baptist, Oct. 10, 1906.

2. THE JOURNAL, April 21, 1906, p. 1221.

the press is proof of the falsity of their position and claims; *and no one knows this better than they.* That is why they insist on the publishers of the paper, in which they pay for space, saying "Dr. —— is personally known to the publishers of this paper, and is known to be a reliable person and a competent physician." It is to bolster up their claims. They know that the best remedies as soon as found out are heralded from one side of this earth to the other that all mankind may be benefited; but they seek to enlist the support and influence of the religious press, of which influence you wrote so well in this week's paper, that color and appearance may be added to their false claims.

I am sure that the reason for your seeming acquiescence in these fraudulent advertisements is because it has never occurred to you to investigate. I am a firm believer in this proposition, that when James E. Clarke investigates anything and finds it to be wrong, that very moment he is uncompromisingly against it.

In reply Mr. Clarke wrote that it was hardly the function of such a paper as the *Cumberland Presbyterian* to decide questions in accordance with any professional code of ethics, and that the underlying principle of practically all modern advertising is that the goods advertised should be represented as superior to other goods of the same class.

understand [Italics are ours.—ED. JOUR. A. M. A.] are leading the crusade against the medicines, are carrying in their columns at the same time lies galore setting forth other wares."

The advertising manager, taking up the quotation from the paper, "Dr. ——— is personally known to the publishers of this paper, and is known to be a reliable and competent physician," replies more specifically: "That is endorsement, all right, and if you had spent one-half the time that I did in investigating Dr. Weber . . . you would have a different view of the subject. Dr. Weber is an elder in one of the largest Presbyterian churches in Cincinnati, he is superintendent of the Sunday school and chairman of the finance committee."

The advertisement which was so carefully investigated was:

CANCER.

WELL-KNOWN RESIDENTS OF THE SOUTH TESTIFY TO ITS SUCCESSFUL TREATMENT AND CURE.

Dr. Chas. Weber, of Cincinnati, Ohio., has made the treatment of Cancer a specialty for many years without the knife. As an evi-

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KEEP YOUR WALLET CLOSED

Just Say the Word

Don't Send a Penny

If You Don't Feel Right

A WONDERFUL RESTORATION

Our Trial Offer

If You Are Sick

WHAT VITÆ-ORE IS.

Thousands of People

Out of the Jaws of Death

Permanently Cured in One Month's Time of a Serious Kidney and Rheumatic Trouble—Was Broken Down, Discouraged and Almost Helpless.

M. V. Easley

Re-affirmed Over One Year Later

A TRIAL OF VITAE-ORE WILL TELL YOU ITS OWN PLAIN STORY, A STORY THAT HAS MEANT COMFORT, PEACE, AND HAPPINESS TO THOUSANDS.

READ THE TESTIMONY.

THEO. NOEL COMPANY CUMBERLAND DEPARTMENT VITÆ-ORE BUILDING CHICAGO, ILL.

Thanksgiving Number.

THE CUMBERLAND PRESBYTERIAN

The Peace, Unity and Purity of the Church.

Nashville, Tenn., November 22, 1906.

THE GLEANER.

"The harvest truly is plenteous, but the laborers are few."

Issued weekly by the Cumberland Presbyterian Publishing House, Nashville, Tennessee.

REPORT OF BROTHERHOOD CONVENTION.

The above reproduction of the cover pages of a religious weekly may be interesting in this connection. It is possible that some incongruity may be found between the front and the back covers. The fine print is readable by one who has either good eyes or a magnifying glass. The names of those who have in the past replied to the advertisements of this firm—if *Collier's Weekly*, Nov. 17, 1906, is correct—are for sale by firms who deal in the "confidential letters," of people who are sick or who have decided that they are sick after reading nostrum advertisements. After a firm has bled those who "don't feel right," as far as it can, the letters are sold to other nostrum vendors, who in turn may snatch the unfortunates "out of the jaws of death," etc. Is not this a delightful business for a religious weekly to coöperate in!

The manager of the paper wrote: "There is not a point you mention which we do not in some way come up with. The difference in your viewpoint and ours is that you speak of 'patent-medicine' advertising only, while we see the unsatisfactory features of all advertising. To put it in a nutshell—that advertisement is exceptional which does not grossly exaggerate. . . . It is not a question of 'patent-medicine' advertising—it is a question of nearly all advertising. The very papers which, *with axes to grind which other papers*

dence of his success he refers to Mrs. E. M. Swift, 743 Fifth St., Louisville, Ky., who was cured of a large cancerous growth affecting her left arm, for which amputation of the arm had been advised.

Hon. A. A. Oden, County Treasurer, Hartselle, Ala., cured of face cancer five years ago.

Mrs. J. C. Eby, 74 W. 11th St., Covington, Ky., cured of cancer of the breast eleven years ago.

Mrs. R. Y. Moses, Brownsville, Tenn., cured of face cancer.

Dr. Weber is personally known to some of those connected with "The Cumberland Presbyterian" and we have every reason to believe that he is a reliable man and competent physician.

Address Dr. Charles Weber, 17 Garfield Place, Cincinnati, Ohio, for book of information.

A fact overlooked by both the Rev. Mr. Clarke and the managers of the paper is, that in buying most things—clothing, utensils, apparatus—the purchaser is more or less familiar with the goods and generally has an opportunity of judging for himself the value he is getting for his money. The average layman, however, even of the educated class, has a deep and abiding ignorance of all things medical and is totally unable to judge of the value of the thing advertised. The fact that it is advertised in his church paper gives him confidence in it. He has no opportunity to examine it and to see if it is what it is claimed to be. Even in the rare instances in which the composition is given on the label, the names of the drugs convey no meaning to the layman who knows nothing of their action, either alone or in combination, and the manufacturers of "patent medicines" take advantage of this.

But aside from this there is a fundamental difference between offering for sale some article of merchandise, even granting that such an article is grossly misrepresented, and offering for sale a "cure" for an incurable disease or a nostrum containing powerful or habit-forming drugs. In the one case, should the article and its advertised description be too palpably at variance, the purchaser has a simple remedy: the law. But what recourse has the poor victim of cancer or tuberculosis who wastes precious time—to say nothing of money—in a fruitless endeavor to "cure" himself and finally reaches a stage where no skill, however great, can avail him; or what recompense has the alcoholic or the morphin habitué who has been dragged to the depths by innocently prescribing for himself a "tonic" or a "catarrh cure." It is curious to what casuistry men descend in defending their business relations. Members of a church place confidence in their church paper as they do not in lay newspapers. They read the latter with a certain amount of doubt, the newspapers are not posing as teachers, but as disseminators of news. The religious journals are teachers of religion, of morals, of ethics, of truth and justice, and their readers naturally place dependence on what is contained not only in their reading, but in their advertising pages. For this reason the religious press is the favorite medium for quack medicine advertising. It is cruel, if not criminal, for such papers to enter into alliance with "patent-medicine" men and thus help to delude and swindle the sick and suffering.

One other thought: Physicians who take religious journals that carry obnoxious advertisements should take the trouble to write in protest to their editors. This they should do, not sporadically but persistently, and get others to do the same, and in time these journals will grant to business pressure what they refuse to concede to common decency.

Fortunes from Quack Medicines.

The *Medical Press*, London, says of the quack medicine business: "Of the most glaring and most successful enterprises the proprietors are generally Americans or colonials. Although it may be comforting to reflect that home quackery is of comparatively small proportions when looked at in the light of American quackery, it is not reassuring to find that any dealer in 'patent medicines' from abroad or the colonies can command the advertisement columns of the British press if he comes with his money in his hand. Such, unfortunately, is the case. No deal is too glaring for most newspapers. During the last few weeks the wills of several large 'patent-medicine' directors have been published, and they bear eloquent testimony to the profits derivable from the trade. Thus, Senator G. T. Fulford, proprietor of 'Dr. Williams' Pink Pills for Pale People,' left a fortune amounting to no less than £1,311,000, derived chiefly from that concern; Mr. Charles E. Fulford, of the 'Bile Beans' Company, a comparatively new affair, left £67,187; and his colleague, Mr. E. A. Gilbert, £31,252. Mr. Lyman Brown of New York, managing director of A. J. White, Ltd., the firm which trade in 'Mother Seigel's Syrup,' died at the Hotel Cecil last October, and his will shows property in the United Kingdom alone of £31,782; as to how much he had in America we have no information. Medical men who toil day in and day out among the poor may be inclined to look enviously on these sums, but the consciousness of having tried to alleviate sickness and pain will amply compensate."

Queries and Minor Notes

DIFFERENTIATION OF SMEGMA AND TUBERCULOSIS BACILLI.

FORTUNA, CAL., Jan. 11, 1907.

To the Editor:—Can you tell me the best method of differentiating the tubercle bacillus from the smegma bacillus in sediment from urine? J. A. LANE.

ANSWER.—By far the most reliable and ready way to distinguish between tubercle bacilli and smegma bacilli in the urine is to avoid contamination of the urine by the smegma bacilli, This can be readily done by securing the urine by catheterization, after careful cleansing of the orifice of the urethra. The most conclusive method in doubtful cases is animal inoculation, the smegma bacillus being non-pathogenic. Various authorities seem to be altogether in disagreement as to the best method of differentiating these two organisms by staining. The whole subject of the occurrence and properties of the smegma bacillus will be found carefully reviewed in an article by Oscar Dahms, in THE JOURNAL, April 28, 1900. He subjected the proposed differential staining methods to a careful test, and found that the method of Bunge and Trantenroth gave absolutely reliable results. This is described as follows: The cover glass preparations, without having been previously fixed in the flame, are immersed in absolute alcohol or in a mixture of alcohol and ether for a period of time varying from several to twenty-four hours. After this treatment the organisms so lose their resistance to decolorizing agents that, after having been stained with carbol fuchsin, and having remained for one or two minutes in dilute sulphurous acid, an aqueous solution of methylene blue will then stain the bacilli blue. Under the same treatment tubercle bacilli remain red. Dahms found the stain absolutely reliable in differentiating the two forms when applied in the following way: 1. Place cover glass, without previous heating, into absolute alcohol for three hours. 2. Treat with a 3 per cent. chromic acid solution for fifteen minutes. 3. Stain with carbol fuchsin. 4. Treat with dilute sulphurous acid for two to three minutes. 5. Treat with concentrated alcoholic solution of methylene blue for five minutes, which will stain the smegma bacilli blue, leaving *Bacillus tuberculosis* red. Dahms also notes that smegma bacilli never show the curved forms so common among tubercle bacilli.

THE STATUS OF PHYSICIANS' PRESCRIPTIONS IN THE TERRITORIES.

LAS CRUCES, N. M.

To the Editor:—The question has been raised in the Grant County Medical Society as to whether Section 7 of the Food and Drugs Act applies to the labeling of physicians' prescriptions. Can you give me any information on this subject that might aid in satisfying the members of the county society? R. E. MCBRIDE,
Secretary N. M. M. A.

ANSWER.—According to the Bureau of Chemistry of the United States Department of Agriculture, the question raised has not yet been settled; it is at present in the hands of the Department of Justice. If the prescriptions enter in any way into interstate commerce, however, the Food and Drugs Act undoubtedly applies.

THE FOOD VALUE OF ANIMAL GELATIN.

———, N. M., Jan. 16, 1907.

To the Editor:—Referring to the editorial in THE JOURNAL, January 12, on "The Food Value of Vegetable Gelatins," I wish to ask if the animal gelatins have any food value? I have an opinion regarding the matter but can not confirm it definitely or disprove it by such authorities as are available for reference. D. I.

ANSWER.—Vegetable gelatins, so-called, must be distinguished from true gelatins of animal origin, for these substances are in no way related chemically, however much they may resemble one another in physical properties. Vegetable gelatins are polymeric forms of simple carbohydrates, and when hydrolyzed with acids or by other means yield simple hexose and pentose sugars. They are without nutritive value for the animal economy, however, because the animal body possesses no enzymes or other agencies which have the power of decomposing the vegetable "gelatins" into absorbable and utilizable sugars. The animal gelatins, on the other hand, are a variety of the true proteids, and are readily split by the digestive fluids into the amino-acids of which they are composed. These amino-acids are absorbed and utilized by the animal economy just as they would be if they were derived from egg albumin, or from muscle globulin, or from any other food proteid. The animal gelatins differ from the typical proteids, however, in possessing but an extremely small proportion of amino-acids which contain an aromatic radical, namely, tyrosin, tryptophan and phenyl-alanin. Of these three, gelatin contains no tryptophan and little or no tyrosin, consequently it can not furnish these groups for the body to use in repairing tissue waste. On this account, presumably, gelatin

can not be used to entirely replace the proteids of the foods, although it can replace them to a large extent. Numerous experiments have been made to ascertain the food value of gelatin, and it has been found that it can replace as much as five-sixths of the proteid required to maintain nitrogenous equilibrium; but the remaining sixth of proteid is absolutely necessary. Consequently, although gelatin can not alone support life, yet it has a very large food value, and can take the place of the greater part of the necessary proteids of the human dietary.

STATISTICS AND HISTORY OF TUBERCULOSIS.

HANOVER, PA., Jan. 18, 1907.

To the Editor:—What book or article gives an account of tuberculosis from a historical standpoint, and also from a statistical view? C. STICK.

ANSWER.—The historical aspect of tuberculosis is briefly treated by A. J. Lartigau in volume 20 of the Twentieth Century Practice; by Spina in "A History of Tuberculosis" (Translation) Cincinnati, 1883, by Evans in "Handbook of Historical and Geographical Phthisiology, N. Y., 1888, and by Alfred Hillier in "Tuberculosis," Cassel & Co., N. Y. The first annual report (1905) of the Henry Phipps Institute, 238 Pine St., Philadelphia, contains statistics regarding this disease that are comprehensive and authoritative.

The Public Service

Army Changes.

Memorandum of changes of station and duties of medical officers, U. S. Army, week ending Jan. 26, 1907:

Murtagh, John A., asst.-surg., granted leave of absence for one month, with permission to apply to the Military Secretary of the Army for an extension of one month.

Lewis, William F., asst.-surgeon, will, in addition to his other duties at the Army General Hospital, Presidio of San Francisco, attend the medical needs of Fort Mason, Cal., and act as attending surgeon, headquarters, Department of California.

Hess, Louis T., asst.-surgeon, ordered to proceed to Fort Ethan Allen, Vermont, to accompany the 23d Battery Field Artillery to San Francisco, and on completion of this duty will return to place of receipt of order and revert to his leave status.

Cox, Walter, asst.-surgeon, relieved from duty at Fort Sill, Oklahoma, and will proceed to Fort Robinson, Nebr., and report in person not later than Feb. 20, 1907, to the commanding officer, 10th Cavalry, for duty with that regiment to the Philippine Islands. On arrival at Manila he will report in person to the commanding general, Philippines Division for assignment to duty.

Bispham, William N., asst.-surgeon, relieved from duty at Fort Logan, Colo., and will proceed to Fort D. A. Russell, Wyo., and report in person not later than Feb. 20, 1907, to the commanding officer, 10th Cavalry, for duty with that regiment to the Philippine Islands. On arrival at Manila he will report in person to the commanding general, Philippines Division, for assignment to duty.

Wolfe, Edwin P., asst.-surgeon, relieved from duty at Fort Hancock, N. J., and will proceed to New York City and report in person to the officer in charge of the Medical Supply Depot in that city for duty in that depot.

Cook, William H., contract surgeon, ordered from San Francisco, to New York, for annulment of contract.

Felts, Robert L., contract surgeon, returned to Fort Sam Houston, Texas, from leave of absence.

Pinquard, Joseph, contract surgeon, left Fort Leavenworth, Kans., on leave of absence for one month, fifteen days.

Parkman, Wallace E., contract surgeon, left Fort Assiniboine, Mont., and arrived at Fort Keogh, Mont., for duty.

Dillon, G. Parker, contract surgeon, ordered from Fort Bliss, Texas, to Fort Apache, Ariz., for temporary duty.

McPheeters, Samuel B., contract surgeon, left Fort Robinson, Nebr., and arrived at Fort Leavenworth, Kans., for duty.

McAlister, John A., dental surgeon, granted an extension of one month to his leave of absence.

Casaday, George H., dental surgeon, ordered from Army General Hospital, Presidio of San Francisco, to Presidio of Monterey, Cal., for temporary duty.

Wing, Franklin F., dental surgeon, returned to Fort D. A. Russell, Wyoming, from leave of absence and left station for temporary duty at Fort Washakie, Wyoming.

Boak, S. Davis, dental surgeon, left Columbus Barracks, Ohio, en route to Havana, Cuba, with ten days' leave of absence en route.

Mason, George L., dental surgeon, ordered from Fort McPherson, Ga., to Jackson Barracks, Louisiana, for one month, Fort Saint Philip, Louisiana, for ten days, and Fort Barrancas, Florida, for one month.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Jan. 26, 1907:

Pickrell, G., surgeon, detached Bureau of Medicine and Surgery, Navy Department, ordered to Naval Academy.

Stibbens, F. H., asst.-surgeon, appointed asst.-surgeon with rank of lieutenant (junior grade), from Jan. 4, 1907.

Scott, T. W., Ruge, O. G., appointed pharmacists from Jan. 15, 1907.

Grow, E. J., surgeon, ordered to Marine Recruiting Station, New York, and additional duty in attendance on officers and men of the Navy and Marine Corps of New York City not otherwise provided with medical aid.

Odell, H. E., P. A. surgeon, ordered to the Naval Hospital, Newport, R. I.

Strine, H. F. P. A. surgeon, detached New York Hospital, ordered to Naval Hospital, Naval Academy.

Gill, J. E., asst.-surgeon, detached *Dubuque*, ordered Naval Recruiting Station, Kansas City, Mo.

Duhigg, J. T., asst.-surgeon, ordered to Naval Hospital, New York.

Michels, R. H., asst.-surgeon, orders of Jan. 4 modified; detached Naval Recruiting Station, Kansas City, Mo., and ordered to *Dubuque*.

Thompson, E., surgeon, detached Naval Station, Charleston, S. C., and ordered to Naval Station, Guantanamo, Cuba.

Curl, H. C., surgeon, detached duty with Department of Government and Sanitation, Canal Zone, to report to Surgeon-General, U. S. N., for special duty.

Evans, S. G., surgeon, ordered to Naval Station, Charleston, S. C.

Reeves, I. S. K., P. A. surgeon, detached *Scorpion*, ordered to Naval Medical School Hospital, Washington, D. C., for treatment.

Wright, B. L., surgeon, when discharged from treatment at Naval Hospital, New Fort Lyon, Colo., to duty in that Hospital.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and noncommissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Jan. 23, 1907:

Blue, Rupert, passed asst.-surgeon, granted leave of absence for two days from January 22.

Lloyd, B. J., passed asst.-surgeon, ten days' leave of absence granted from December 24, amended to read twelve days.

Warren, B. S., passed asst.-surgeon, granted leave of absence for five days from January 16.

Simpson, Friench, asst.-surgeon, relieved from duty at Baltimore, Md., and directed to proceed to Fort Stanton, N. M., reporting to medical officer in command for duty and assignment to quarters.

Mason, M. R., pharmacist, granted leave of absence for seven days from Jan. 15, 1907, under Paragraph 210 of the Service Regulations.

PROMOTION.

Assistant Surgeon J. S. Boggess commissioned as passed assistant surgeon, to rank as such from Dec. 5, 1906.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service during the week ended Jan. 25, 1907:

SMALLPOX—UNITED STATES.

Georgia: Augusta, Jan. 8-15, 11 cases.
Illinois: Chicago, Jan. 12-19, 2 cases; Galesburg, 11 cases.
Indiana: Indianapolis, Jan. 6-13, 2 cases; Lafayette, Jan. 14-21, 3 cases; South Bend, Jan. 12-19, 5 cases.
Louisiana: New Orleans, Jan. 13-20, 3 cases (2 imported).
Michigan: Ann Arbor, Jan. 12-19, 1 case; Detroit, 7 cases.
Missouri: St. Joseph, Jan. 5-12, 10 cases; St. Louis, Jan. 12-19, 2 cases.
Montana: Chouteau County, Dec. 1-30, 5 cases; Dawson County, 2 deaths.
North Carolin: Greensboro, Jan. 12-19, 1 case.
Ohio: Cincinnati, Jan. 11-18, 1 case.
Texas: Houston, Jan. 5-12, 3 cases.
Washington: Spokane, Dec. 29-Jan. 12, 16 cases (7 imported).
Wisconsin: Appleton, Jan. 12-19, 1 case; La Crosse, 2 cases; Milwaukee, Jan. 5-19, 8 cases.

SMALLPOX—FOREIGN.

Africa: Cape Town, Dec. 8-15, 1 case.
Brazil: Bahia, Dec. 8-15, 2 cases; Pernambuco, Nov. 15-30, 26 deaths; Rio de Janeiro, Dec. 8-22, 10 cases.
Canada: Cape Breton—Sydney, Jan. 12, present.
Chile: Antofagasta, Dec. 24, 3 cases; Coquimbo, 19 cases, 2 deaths; Iquique, present.
China: Chefoo, Nov. 13, 1 case (on U. S. S. *Raleigh*); Shanghai, Nov. 26-Dec. 2, 1 case.
Ecuador: Guayaquil, Dec. 1-15, 10 deaths.
Great Britain: Hull, Dec. 22-29, 1 death; Sheffield, Dec. 31-Jan. 7, 1 case.
India: Bombay, Dec. 18-25, 1 death; Calcutta, Dec. 8-15, 6 deaths.
Italy: General, Dec. 20-27, 1 case.
Persia: Nov. 30, in 9 localities (present).
Russia: Odessa, Dec. 29-Jan. 5, 5 cases, 1 death; St. Petersburg, Dec. 15-29, 14 cases, 2 deaths.
Spain: Barcelona, Dec. 23-30, 7 deaths; San Feliеu de Guixols, Dec. 29-Jan. 5, 1 death.

YELLOW FEVER.

Ecuador: Quayaquil, Dec. 1-15, 9 deaths.

CHOLERA—INSULAR.

Philippine Islands: Manila, Nov. 25-Dec. 1, 1 case, 1 death; Provinces, Nov. 25-Dec 1, 115 cases, 77 deaths, Dec. 1-8, 34 cases, 28 deaths.

CHOLERA—FOREIGN.

India: Bombay, Dec. 18-25, 3 deaths; Calcutta, Dec. 8-15, 109 deaths; Rangoon, Nov. 17-24, 15 deaths, Dec. 8-15, 43 deaths.

PLAGUE.

Australia: Brisbane, Nov. 17-24, 2 cases, 2 deaths.
Brazil: Rio de Janeiro, Dec. 8-22, 23 cases, 9 deaths.
Chile: Antofagasta, Dec. 24, 2 cases.
Egypt: Alexandria, Dec. 9-31, 2 cases, 2 deaths; Keneh Province, Dec. 30, 1 death; Menoufeih, Dec. 31-Jan. 1, 1 case, 1 death.
India: Bombay, Dec. 18-25, 10 deaths; Calcutta, Dec. 8-15, 14 deaths; Rangoon, Nov. 17-24, 22 deaths, Dec. 8-15, 18 deaths.
Mauritius: Nov. 22-Dec. 6, 83 cases, 53 deaths.
Peru: Chicama Valley, Dec. 22, present; Mollendo, Dec. 4-18, 9 cases, 3 deaths.

Marriages

SAMUEL D. RISLEY, M.D., Philadelphia, Pa., to Miss Louise Robinson, January 15.

JAMES FLOYD BOWMAN, M.D., to Miss Zenobia Smith, both of New York, January 1.

EDWARD F. MAGINN, M.D., to Miss Estella McCarthy, both of Butte, Mont., January 15.

JAMES CULLEN ZAN, M.D., to Miss Elsie Meline Smith, both of Portland, Ore., January 1.

AUBREY HARPER, M.D., Wray, Ga., to Miss Mary Lee Brown of Carrollton, Ga., January 1.

HERBERT H. DARNALL, M.D., to Miss Lorine Stewart, both of Columbus, Ark., January 9.

OLIVER W. GORDON, M.D., Council Bluffs, Iowa, to Mrs. Sarah Beach, Wheaton, Ill., January 10.

ALPHONSE WREN, M.D., New York, N. Y., to Miss Genevieve Kempt, at Springfield, Ohio, January 9.

BERTHA TAYLOR PATTON, M.D., and Charles William Baumbaugh, both of Portland, Ore., January 9.

FRANK GAINES GRACE, M.D., Birmingham, Ala., to Miss Katherine Buchanan, Greensboro, Ala., January 9.

Deaths

Benjamin F. Crummer, M.D. University of Michigan, Ann Arbor, 1869, and University of the City of New York, 1875; a member of the Douglas County Medical Society and American Medical Association; a former practitioner of Elizabeth and of Warren, Ill.; at one time professor of medicine in Creighton University, Omaha, and a member of the State Board of Health; visiting physician of St. Joseph's and Douglas County hospitals, Omaha; and some-time president of the Douglas County Medical Society, the Nebraska State Medical Association and the Medical Society of the Missouri Valley, died at his home in Omaha, January 24, from endocarditis, aged 58.

Elliott H. Woolsey, M.D. Medical Department of Buffalo, 1868; a member of the American Medical Association, the Medical Society of the State of California, the Society of Physicians and Surgeons of Alameda County, and for many years an active member of the San Francisco Microscopic Society; for several years chief surgeon of the Southern Pacific Railroad, died at his home in Oakland, Cal., of pneumonia, January 21, aged about 65.

Augustus von L. Brokaw, M.D. Missouri Medical College, St. Louis, 1885; a member of the American Medical Association, International Surgical Society, Southern Surgical Association, Missouri State Medical Association and St. Louis Medical Association, died at his home in St. Louis from stomach and intestinal derangements following an attack of influenza, January 25, aged 43.

Franz T. F. Kuckein, M.D. University of Munich, Germany, 1881; formerly president of the German-American League of California; a member of the state and county medical societies, and of the Society of German Physicians and Surgeons, San Francisco; consulting physician to the German Hospital, died in that institution, January 10, three days after an operation for appendicitis, aged 53.

Adam **Shirk, M.D.** University of Pennsylvania, Philadelphia, 1862; assistant surgeon in the Navy during the Civil War; formerly superintendent of the State Insane Asylum, Austin, Tex., and for five years superintendent of the Alameda County Infirmary, died at his home in Oakland, after an illness of a few weeks, aged 66.

James **Henry McNeel, M.D.**, Rush Medical College, Chicago, 1863; a member of the American Medical Association; member of the legislature from Sheboygan County, Wis., in 1870, was found unconscious in his buggy from cerebral hemorrhage on the evening of January 22, and died at his home in Fond du Lac the next morning, aged 68.

Edward B. Marsh, M.D. Jefferson Medical College, Philadelphia, 1892; a member of the American Medical Association; surgeon to the Westmoreland Hospital and Children's Home; surgeon to the Pennsylvania Railroad; examiner for several insurance companies, died of diabetes, January 16, aged 67.

John Manning, M.D. Western Reserve University, 1847; Cleveland Medical College, 1850; a pioneer resident and former mayor of Youngstown, Ohio, died at his home in that city, from nephritis, December 15, after an illness of three weeks, aged 82.

William F. Hovey, M.D. University of Michigan, Ann Arbor, 1853; a charter member of the Saginaw Valley Medical Society, died suddenly at his home in Bay City, January 17, aged 72.

Robert Bell, M.D. Geneva Medical College, Geneva, N. Y., 1845; the oldest member of the Steuben County Medical Society; a member of the Medicolegal Society of New York, died at his home in Monterey, N. Y., aged 90.

Theodore A. Johnson, M.D. Northwestern University, Chicago, 1884; examining physician for the United States pension bureau, died at his home in Xenia, Ill., January 14, after an illness of a few days' duration, aged 48.

Emmet Le R. Wemple, M.D. Cooper Medical College, San Francisco, 1873; a member of the American Medical Association, dropped dead, supposedly from heart disease, in San Francisco, aged 57.

Fred W. Kolthoff, M.D. Kentucky School of Medicine, Louisville, 1898; died at his home in Covington, Ky., January 14, from injuries inflicted last October by a patient who was mentally deranged.

Elbert E. Barnum, M.D. University of Michigan, Ann Arbor, 1876; a member of the American Medical Association, died at his home in Pine City, Minn., from pneumonia, January 13.

Charles M. Wagar, M.D. Queen's University, Kingston, Ont., 1905; an interne at the Hahnemann Hospital, Rochester, died at that institution from cerebrospinal meningitis, aged 25.

Walter A. LeCompte, M.D. Harvard University, Cambridge, Mass., 1897; a member of the American Medical Association, died in Boston after an operation for appendicitis, aged 36.

Thomas F. Mayham, M.D. Northwestern University Medical School, Chicago, 1869; eight times mayor of Fond du Lac, Wis., died suddenly at his office in that city, January 22, aged 77.

Jay E. Johnstone, M.D. University of Michigan, Ann Arbor, 1891; of Tomahawk, Wis., died at the Sacred Heart Hospital, Tomahawk, of acute pneumonia, aged 42.

Elias T. Fogel, M.D. Eclectic Medical Institute, Cincinnati, 1871; died at Elwood, December 21, as a result of injuries caused by being struck by a street car.

Charles P. Newton, M.D. University of Vermont, Medical Department, Burlington, 1881; died at his home in Underhill, Vt., from nephritis, January 7, aged 56.

Joseph H. Wolfe, M.D. University of Maryland School of Medicine, Baltimore, 1868; died of heart disease at his home in Elkton, December 18, aged about 60.

Oliver Stewart, M.D. Detroit College of Medicine, Detroit, 1887; formerly of Port Huron, Mich., died at Pontiac, from brain disease, January 15, aged 45.

Millard F. Sowash, M.D. Jefferson Medical College, Philadelphia, 1874; a pioneer physician of Irwin, Pa., died at his home in that city, January 15, aged 59.

Carl Proegler, M.D. University of Berlin, Germany, 1859; a veteran of the Civil War, died at his home in Fort Wayne, of apoplexy, January 16, aged 70.

Hiram Seymoure Browne, M.D. Casselton Medical College, Casselton, Vt., 1852; died at the City Hospital, Rochester, N. Y., December 28, aged 79.

John F. Shronts, M.D. Rush Medical College, Chicago, 1868; died at his home in Momence, Ill., after a stroke of paralysis, January 15, aged 59.

Theodore H. Booton, M.D. College of Physicians and Surgeons, Baltimore, 1886; of Flint Hill, Va., died at Luray, Va., January 15, aged 50.

Norman F. Edwards, M.D. Hahnemann Medical College, Philadelphia, 1902; died January 13, at Welsh, W. Va., of uremia, aged 28.

A. W. Gause, M.D. University of Tenessee, 1888; died at his home in Centralia, Ill., after an illness of three days, January 13, aged 58.

Elmer E. Wiles, M.D. Jefferson Medical College, Philadelphia, 1884; died suddenly in his office in Rimersburg, Pa., aged 50.

D. A. Watts, M.D. Jefferson Medical College, Philadelphia, 1860; died at his home in Lake City, Fla., aged 73.

Fleetwood Sale, M.D. Medical College of Ohio, 1889; died at his home in Dillsboro, Ind., January 16, aged 81.

Robert L. Annan, M.D. New York University, 1856; died suddenly at his home in Emmitsburg, Md., aged 76.

Henry Kost, M.D. University of Wurzburg, 1853; died at his home in New York City, January 17, aged 76.

Medical Organization

A Plea for Unity in New York City.

Not only in state journals, but in the medical periodical literature of the country generally, is the matter of medical organization receiving more and more attention. Since the beginning of the reorganization movement it has been recognized that the crucial points in the efficient organization of the medical profession were our large cities. How to make medical societies in New York, Chicago, Philadelphia, Boston and other large medical centers truly representative and at the same time worthy of the profession was one of the problems which presented itself to the Committee on Reorganization. Very wisely, they attempted no definite settlement of the problem but laid their organization plans on broad lines, capable of general application, and left to each city the task of working out its own peculiar local problems.

In New York it has seemed advisable to the local profession to defer the work of systematizing and unifying their medical organizations. The leaven is working, however, and agitation for more compact and effective organization has begun. In the *New York Medical Journal* for Dec. 1, 1906, appeared the annual address of Dr. Floyd M. Crandall, President of the Medical Society of the County of New York. It is a significant indication of the spirit of the times that he chose for his subject "The Medical Societies of New York County, with Special Reference to the Need of Better Organization of the Medical Profession." His address is a most interesting one, and should be read by officers and organization workers in all of our large cities. Dr. Crandall lays down as his first proposition the statement that there has been, in recent years, an injudicious multiplying of medical societies. According to Dr. Crandall, there are now in Greater New York nearly ninety medical organizations. Eliminating the County Societies of Kings, Queens and Richmond Counties, and the Homeopathic and Eclectic Societies, as well as the nine sections of the Academy of Medicine, there are, to-day, sixty-seven non-sectarian medical societies in the Buroughs of Manhattan and the Bronx, which territory constituted the old City of New York. Dr. Crandall classifies these societies under three main heads:

1. Those whose work in varying proportions is scientific and social. Under this general head he makes these special divisions: (a) Medical Clubs, (b) Alumni Organizations, (c) Clinical Societies of Colleges, (d) Societies based on nationality of members, (f) Local Societies.

The second general class is composed of societies organized for benevolent and charitable purposes, whose sole object is to furnish pecuniary aid to their members and to their members' families. The third general class consists of public societies possessing important functions in addition to their scientific and social activities. Under this class he recognizes two societies, the New York Academy of Medicine and the Medical Society of the County of New York. It is worthy of note, in this connection, that the county societies in the state of New York possess certain legal powers, which were conferred on them by the state. Their principal duty to the state is to enforce certain provisions of the criminal law which relate to the practice of medicine.

Dr. Crandall devotes considerable space to a discussion of the New York Academy of Medicine, and outlines briefly its many activities and its beneficial influence on medical matters in New York. He summarizes its functions under three heads: 1. It serves as a training school for its members. 2. It owns and maintains its own building and thus provides a medical center and home for the profession. 3. It maintains a medical library and reading rooms.

After considering the entire subject, the local medical societies, Dr. Crandall concludes that none of the societies is performing certain functions necessary for the profession as a whole, looking out for the financial and temporal interests of medical men, or acting as a unifying force in the profession. He recognizes the desirability of greater union, and affirms that this could be brought about through harmonizing and coördinating the existing societies, without in the slightest degree impairing their autonomy and independence, or changing their present character. He feels that a strong central organization is not now and would not in the future injure the local societies, but, on the contrary, would be an active stimulus to their growth and prosperity, since it would remove rivalry and would increase the importance of the local bodies. The fear of the evils which might arise in organized bodies does not deter him; on the contrary, he feels that open nominations and elections by secret ballot would prevent any individual or clique from controlling the organization.

Dr. Crandall cites the experience of the profession in Chicago, where membership in the last five years has been more than doubled and the possibilities and activities of the organized profession vastly increased simply by adopting a systematic plan of organization, which includes specialists, general practitioners, suburban physicians, and, in fact, all classes. He concludes that organization of the profession in New York into one central body, divided into districts, is perfectly feasible, and would be a most powerful influence for good. Among the advantages of such a plan, he emphasizes the increased power which a well-organized central body would have in dealing with perplexing problems; the economy of strength and effort which would be made possible by such plan; the increased opportunity for scientific work and communications, as well as the increased possibilities along practical and business lines. One most important function is that of medical defense, which the reorganized State Society in New York has assumed. The experience of the society in New York has been the same as that obtained elsewhere, viz., that 97 per cent. of so-called malpractice suits are instituted as a means of blackmail and, if stoutly defended, they are abandoned when the case is called. No one factor has such a marked influence in reducing malpractice and damage cases as the knowledge on the part of the public and the local profession, that suits instituted against members of the organized profession will be defended by the profession as a whole. Dr. Crandall concludes by saying that the situation in New York is analogous to that throughout the colonies before the Articles of Confederation were adopted. He says: "Some of the reasons for seeking a more perfect political union in 1787 might well be enumerated as potent for desiring a most perfect medical union in 1906, 'to establish justice, insure tranquillity, provide for the common defense and promotion of the general welfare.'"

Dr. McCormack's Itinerary.

Dr. J. N. McCormack, Bowling Green, Ky., chairman of the Committee on Organization, has been devoting the month of January to work in Tennessee, delivering addresses before audiences composed of physicians and laymen, in all parts of the state. On January 25 he spoke before the General Assembly for Tennessee, at Nashville, both houses adjourning to meet in joint session, in order to hear his address. On Monday, January 28, he spoke before the Commercial Club in Louisville, Ky., and on Wednesday, January 30 he met with the Ohio State Board of Medical Examiners of Cincinnati for a conference on the extermination of quackery in Ohio. The month of February is to be devoted to work in New Jersey, and March to work in Arkansas. In this issue we call attention editorially to the character of Dr. McCormack's work and to the great opportunity offered the profession of securing the attendance of the public at the meetings for the sake of the mutual benefit that is sure to result.

Organization Notes.

Dr. C. T. Botkin, secretary of the Randolph County (Indiana) Medical Society sends us a set of circular letters gotten up by the society, for distribution to the members and desirable non-members of the county. For the information of county secretaries, presidents and chairmen of committees, it might be well to say that the programs, circulars, form letters, etc., sent to the office of the General Secretary by county secretaries are kept on file. If at any time any society officer or member engaged in organization work wishes to get any suggestion or ideas along these lines, we shall be pleased to send him a selection of various programs, letters, etc. Secretaries and chairmen of committees are requested to send to this office copies of all such matter, as well as committee reports, on any subjects.

Dr. A. B. Butte, secretary of the Barbour-Randolph-Tucker County Medical Society (West Virginia) has sent out to all members a circular announcement of the meetings of the society, together with a personal letter, in which he says, among other things: "If you are one of the absentees, may I ask your reasons for not being with us oftener? Do not say you are too busy. I have noticed that the busiest men are often the most regular in attendance. Perhaps the papers do not suit you? This you can easily remedy by writing one yourself. Perhaps the officers do not suit you. If so, come out and help elect others. Perhaps the meeting place don't suit you? If it don't, say so. Can we not count on you for the next meeting?"

Society Proceedings

COMING MEETINGS.

Medical Society of Missouri Valley, Omaha, Neb., March 21-22, 1907.

AMERICAN SOCIETY OF TROPICAL MEDICINE.

Regular Meeting, held Dec. 7, 1906.

The President, DR. ROLAND G. CURTIN, in the Chair.

General Economic Importance of Mosquitoes.

PROF. JOHN B. SMITH of Rutgers College, New Brunswick, N. J., regards mosquitoes of great economic importance and as serious drawbacks to any community from three points of view: 1. Their influence, direct and indirect, on the health and well-being of the inhabitants. 2. Their influence on the development of agricultural resources, preventing or limiting the profitable use of infested territory for certain purposes. 3. Their influence on land values due to the drawbacks mentioned.

He claims that the elimination of the mosquito would add $10,000,000 to the taxable value of real estate in two years. Instances were quoted in which sections of the salt marshes were drained in the manner advocated by him and of the results of unparalleled prosperity. Two industrial enterprises had decided to locate on the marsh area who were expected to employ 4,000 and 6,000 men. In determining whether, in any stage, any species of mosquito is of any value to man, directly or indirectly, it seemed to the author that the answer must be against the insects, leaving absolutely no evidence that they are of any use or benefit whatever to the human race, directly or indirectly, as larva or adult. It was stated that the legislature and governor of New Jersey are sufficiently convinced of the injurious effects of the mosquito on the development of the state to venture an investment of $350,000 in the effort to secure the practical elimination of the pest.

Mosquitoes of Pennsylvania.

MR. H. L. VIERECK of the Pennsylvania Department of Health found that mosquitoes breed only in slow running or stagnant water that is devoid of the natural enemies of the mosquito; for example, no breeding was detected in reservoirs adequately stocked with fishes, or in waters tinctured with sulphur water from the coal mines, or in water covered with a film of oil from oil wells. In one instance a standing body of water polluted with waste from a glue factory produced *Culex* (the non-malaria bearing mosquito) in myriads, but no *Anopheles*, or the malaria-bearing mosquito. In Braddock and McKeesport, where there were no depressed areas, there was no mosquito breeding. In the investigation all the principal cities and other communities had their mosquito problem inspected by the officers of the State Department of Health.

Life History of the Malarial Parasite.

DR. JOSEPH MCFARLAND gave a brief description of the life history of the malarial parasite. He showed that when the anopheles mosquito sucks blood containing malarial parasites it becomes infected by the parasites, which pass through regular developmental stages in its body before being transmissible to other men, the duration of the cycle varying from eight to twelve days, according to the temperature, and probably taking place only during summer. The adult parasites known as gametocytes appear in the blood as rounded bodies the size of red corpuscles in the benign forms, as crescentic or falciform bodies in the malignant forms of malaria. The smaller of these, the microgametocyte (male), breaks up into long filiform bodies or spermatozoids which fertilize the larger (female) parasites or macrogametocytes in the stomach of the mosquito. The fertilized parasite is then known as a zygocyte. It elongates, bores its way through the stomach and takes up its position on the outer surface of the insect's stomach, grows into a large rounded body known as a blastomere, which later breaks up into an immense number of small falciform or filiform bodies known as sporozoids, which are embryo parasites. These migrate to the salivary glands of the mosquito, to be discharged from its body by the saliva. There are so many of these sporozoids that the probability is that they are not all discharged before the insect dies, which, during the period of hibernation, may be several months. During all the time between their formation and the death of the mosquito the insect is infective, as each time it bites the sporozoids pass into the proboscis wound in the saliva. Only the female mosquitoes bite, therefore only the females transmit the disease. In order that the mosquito may transmit the disease it is necessary that she bite a human being at a time when there are gametocytes in the blood, that she subsequently lives at least eight to ten days, and that she then bite some other human being.

All the evidence goes to show that the human cycle takes place only in human beings, not in any other warm-blooded animal, and that the mosquito cycle takes place only in the mosquito, not in other insects. As the malarial parasite is only one of many parasites affecting man, so it is only one of many affecting mosquitoes.

BOSTON MEDICAL LIBRARY MEETING.

Regular Meeting, held Dec. 19, 1906.

DR. GEORGE W. GAY in the Chair.

Control of Syphilis and Venereal Diseases.

DR. PRINCE A. MORROW of New York City said that these diseases are a source of danger to the public health, to the family and to the race. Rarely are they fatal directly as is tuberculosis, but they weaken and undermine the system of the victim. The late lesions are the worst. Ninety per cent. of cases of locomotor ataxia, 75 per cent. of ocular paralyses, 80 per cent. of general paralyses of the insane are of specific origin. This is specially true of syphilis, and gonorrhea is almost as bad. Eighty per cent. of the deaths resulting from women's diseases are the result of gonorrheal infection. Besides these, very many persons are invalided, and worse yet are the infants rendered blind. Forty-two per cent. of all abortions are due to syphilis. Sixty to 80 per cent. of all syphilitic children die *in utero*. Gonorrhea is even worse; 50 per cent. of women affected by it are rendered sterile, and many more abort. Ten to 20 per cent. of all blindness is due to gonorrhea. Hence the prophylaxis of these diseases is the most important problem of modern preventive medicine.

The first step in the control of these diseases is to educate the public, even though this same public is averse to being instructed. The difference in the attitude of an enlightened public toward disease is well illustrated in its progressively improving views as to tuberculosis as contrasted with the absolutely barbaric treatment of leprosy. Education must include information as to the extent and dangers of these diseases. The laws of sex and life must also be taught and early, before the sexual passions appear. Children must know about the physiology and hygiene of sex. They must learn to control these passions and be told the grave dangers of excesses. Young men must be taught how to live according to the laws of health. The surest prophylactic measure is to teach and promote continence. It is not true that sexual intercourse is necessary to the health of a man, nor that man has any natural right to gratify these appetites. Continence is compatible with the best health of mind and body. No woman has any reasonable right to believe that the marriage ceremony will transform a polygamous man into a monogamous partner. Thousands of virtuous women suffer untold tortures because of this differing standard between men and women.

Physicians should instruct their patients along these lines and not simply prescribe and let them go. In the United States there is but one hospital devoted exclusively to the care of these diseases. Nor is the dispensary care of these patients any better organized. The problem is a complex one. Therefore, there has been organized in New York a society, including physicians, ministers, lawyers, educators, social settlement workers and public-spirited citizens, the American Society of Sanitary and Moral Prophylaxis. For eighteen months it has been working, under many difficulties, chiefly along educational lines. Physicians generally recognize the necessity of doing something, but are incredulous as to its practicability. Many support and help. A few are hostile.

The public generally is indifferent. The public press is opposed to any publicity in these matters. Detroit, Milwaukee, Chicago and Philadelphia have organized similar societies, and many district societies have taken up the work. There has been much demand for literature and for talks. There is a lecture fund established, and men especially fitted for this work chosen. In general, the lines adopted by the Brussels Congress and later by the American Society are followed. The work is practical, available and efficient. It substitutes interest for apathy, action for inaction, hope for despair.

The Prevalence of Syphilis.

DR. ABNER POST, Boston presented many statistics, laying special emphasis on those cases innocently acquired. Records are inaccurate, for death certificates rarely show these diseases as direct or even as constituting causes. In 1905 there were reported in the U. S. Army records 4,704 cases of gonorrhea and 1,251 of syphilis, a total of 163 venereal cases per 1,000. In the Navy, gonorrhea, with 1,514 cases, stood third as a cause of disability, and syphilis next, with 880 cases. The greatest loss of time, however, is attributed to syphilis, over 23,000 days. In the 1905 U. S. P. H. and M.-H. Service report there are recorded 4,100 cases of syphilis, or four times as many as of tuberculosis. Tabulated reports from many cities show that 10 per cent. of the skin diseases reported are syphilodermata, or 2,660 cases, being only surpassed by eczema, with 5,000 reported cases. Of the cases admitted to the Tewksbury state almshouses in a year, 551, or 62 per cent., were syphilitic, and these are largely immigrants.

Of 965 admitted to the Boston clinic hospitals in Long Island, about 70 per cent. are syphilitic. The Massachusetts General Hospital cared for 16 syphilitics in the wards last year and 347 in its out-patient department. Besides these in its nervous department, of 2,962 cases, there were 56 of general paralysis of the insane, 160 of tabes and 64 of syphilis of the central nervous system, a total of 280, or about 10 per cent., which agrees with figures obtained in other places.

Of the 150 cases under treatment at the McLean Hospital for Insane, 14 were regarded as of syphilitic origin, or again about 10 per cent.

The Boston City Hospital does not admit cases of syphilis, yet in a year's record are found 30 medical cases where it forms part of the diagnosis, and also 17 surgical cases. In its out-patient departments there were noted of syphilitic cases, 73 medical, 29 surgical, 91 throat cases and 150 skin cases. In the Boston Dispensary at the skin department alone there were in two years noted 704 cases. Therefore, the disease is not rare, but frequent, and is present all about us.

Of primary lesions noted at the Boston Dispensary, 7 out of 63 were extragenital. The proportion of men to women was 7 to 11.

Of the last 100 female cases seen by Dr. Post, 13 were accidental infections, 3 being lesions of the hip, 35 were living irregular lives, 20 were married, of whom 5 contracted the disease from their husbands.

DISCUSSION.

DR. CLARENCE J. BLAKE said that people do not willingly expose themselves to other infectious diseases as they do to these. Prostitution is a business, and hence one difficulty in meeting it. In Boston the Watch and Ward Society is studying and working in this line, including in its membership doctors, ministers, lawyers, business men and settlement workers. It will make a report early in 1907. The business is a large one in all our cities. It demands 15 per cent. of fresh material each year. In Boston this mostly comes from within the city, while in other cities it is found outside the city limits. There are in Boston 13 organizations, part of whose work is to care for these women.

PRESIDENT CHARLES G. ELIOT, Harvard University, said the proportion of those suffering with these diseases among the educated is very much less than among the ignorant class. But the penalties for these victims are terribly severe. People should be warned as to the severity of these inevitable penalties. They must know the effects. That continence is not healthy is a teaching which is a discredit to morals and the science of medicine. Teachers must take up this subject frankly. Harvard has such lectures which are accessible to all newcomers at the beginning of each year, where the students are told the nature of gonorrhea and syphilis, sources and consequences. All young men should have such instruction.

NEW YORK ACADEMY OF MEDICINE.

Regular Meeting, held Jan. 3, 1907.

The President, DR. JOHN A. WYETH, in the Chair.

Address by Retiring President.

DR. CHARLES L. DANA said he would use this opportunity to tell what his experience as an executive officer had suggested for guidance and inspiration. It is his most enthusiastic conviction that the Academy of Medicine does most important work for the profession and for the community. The work has expanded until few can realize how far reaching and effective the organization has become. The management of so complex a body comprising 13 societies, a vast library, and the buildings, involves no small amount of responsibility, yet there are no politics and no quarrels. There is no undercurrent of small ambitions or of petty strifes. He is imbued with the academy idea and thinks all communities large enough to form a nucleus of physicians, would be better off if the physicians organized on basic academy principles. He did not mean to belittle the state and county organizations. These are a necessity, but medical organization should not stop there. These societies supply chiefly the material and industrial needs, while the academy or its equivalent humanizes and elevates the medical profession more than books, papers or preaching, and the New York Academy of Medicine stands for a kind of object lesson and thereby fulfills one of its highest functions.

The change of conditions which affect medical societies and their work is a matter that must seriously interest those who are responsible for their success. The great number of societies, the demands made on the doctor's time, make it necessary that a medical meeting shall mean something to him. This means a careful organization and preparation of meetings. For this purpose the council of the academy meets twice a year and formulates lines of work and subjects likely to be most interesting and important. Another fact to be considered is that clinical medicine and gross pathology are to a large extent finished stories. The modern clinician must work with the laboratory at his elbow and he has also the field of prevention and of therapeutics. We must also learn to determine accurately what the patient says he feels. There is nothing so haphazard as the diagnoses made on the subjective complaints of the patient. It is because we have neglected this field that quackery and false forms of cure prevail.

The annual reports show the prosperous condition of the academy. The limit of membership has been increased, yet it has been nearly reached and there will soon be a waiting list. Three new sections have been organized. It costs about $30,000 a year to run the academy, yet the income pays its expenses, has allowed some for a sinking fund, and $5,000 for the library. Fresh interest has been shown in the museum and historical department of the library, and important and valuable contributions have been made. His wish that the academy should not be the forum for learned or lengthy addresses or elaborate monographic reports, but should be the place where the results of medical and surgical work should be first and formally presented has been carried out, as records of the past two years will show. There has been a certain renaissance of scientific medicine in New York as shown by this fact and by the large attendance at the Harvey lectures. The sum of $200,000 is needed with which to enlarge the academy and give more room for the library, and another $200,000 is needed as an endowment fund with which to publish a monthly bulletin of the work done.

Value of Organization in Medicine.

DR. JOHN A. WYETH, the incoming president, said that scarcely a page of history fails to convey the lesson of the value of organization, but it was left to modern times to apply the lesson to the amelioration of suffering and the sav-

ing of life. It was not until the middle of the nineteenth century that the attention of the medical profession was strongly directed to the subject of medical education and the need of higher standards of qualification, both preliminary and medical. The Medical Society of the State of New York in 1844 invited a convention to co-operate with them in this proposition, and in 1846 the proposed organization of a national body took shape, which resulted in the formation of the American Medical Association in 1847. In 1846 the New York Academy of Medicine was founded, and the influence of these two bodies has made itself felt throughout the profession. He thought the most important event in the history of the medical profession in the United States was the reorganization of the American Medical Association in 1900. One of the most difficult problems of this undertaking was the adjustment of differences which divided some of the state societies, and these had been successfully overcome. All the work of this organization was cited as an illustration of what could be accomplished by intelligent co-operation.

With all that has been accomplished there still remains much to be done. Nearly one-half of the profession are as yet "without the walls." These as well as the public should be taught by precept and example that our material advancement is secondary to our obligations to mankind. There are many practitioners in the United States who are so deficient morally and professionally that they are a menace to the communities they infest. There are medical colleges not up to the standard of requirements, and there is scarcely a community which does not violate the ordinary laws of health. It is in the solution of these problems that organization in medicine can make itself felt by co-operation and the sacrifice of material interests to the public good. Organized medicine should take more note of politics than it has hitherto done. It should take as its model the great physician, great politician, great scientist and great philanthropist, the immortal Virchow.

Surgery as a Science and an Art in New York in the Middle of the Last Century.

DR. STEPHEN SMITH, who has been a fellow of the Academy of Medicine since 1855, said that his subject could be best illustrated by a judicious estimate of representative surgeons of that period, the character of the teaching in the medical colleges, and the surgical literature. The representative surgeons of 1850 were, in the order of their ages, Valentine Mott, J. Kearney Rodgers, Willard Parker, Alfred C. Post, John Watson, Guerdon Buck, James R. Wood, John M. Carnochan and William H. Van Buren. Dr. Valentine Mott owed his remarkable succes to aptitude, training and opportunity. The first was seen in his extraordinary attention to detail, order and cleanliness. When in 1809 he returned to this country, after studying under Astley Cooper, the field of operative surgery was occupied only by his friend and preceptor, Wright Post, who was about to retire from active duties. Mott's pioneer work began with the ligature of the innominata in 1818. This was not only his greatest achievement, but the most brilliant operation ever undertaken up to that time. This operation was the fruit of years of study and preparation. His wounds rarely suppurated, a result never completely secured by the school of Hunter. We now discover that his habits of personal cleanliness and attention to details secured asepsis in a large measure. Standing on the vantage ground of half a century after Dr. Mott's death, when criticisms and prejudices of rival surgeons are forgotten, the speaker said the achievements of Mott form the most luminous page in the annals of American surgery, while his great qualities of mind and heart, combined with his august personality, make him the most conspicuous figure in the memory of the surgeons of 1850.

Rodgers' reputation rested on the single operation of ligation of the left subclavian artery within the scalene muscle, in 1845. Astley Cooper had attempted this operation and failed. In operating Rodgers was very dextrous and expeditious. Parker was seen to best advantage in the clinics held at the college lecture room, and few students were graduated from the College of Physicians and Surgeons while Parker occupied the professorship of surgery who were not well instructed in its practice. The next three surgeons, Post, Buck and Watson, were connected with the New York Hospital, but none of them took so great an interest in surgery as their predecessors, Mott and Rodgers. The last three, Wood, Carnochan and Van Buren, became surgeons to the newly created Bellevue. Wood's great service to the profession was the conversion of Bellevue from an almshouse to a modern well-equipped hospital, and then in making it a clinical school. The opening of a new hospital was a great benefit to aspiring young surgeons, as up to that time the New York Hospital was the only one offering advantages in this direction. No surgeon in the list combined so many qualities making for success as Van Buren, whether as teacher, author or practitioner. As to the didactic teaching of surgery in the medical schools of New York, we find Dr. Willard Parker in the College of Physicians and Surgeons, whose lectures were devoted to practical subjects, as fractures and dislocations, injuries of different regions, concussion and compression of the brain, the classification and treatment of ulcers, the diagnosis and treatment of tumors, etc. Serofula was dwelt on as a dangerous complication of surgical diseases, but syphilis received only passing notice. While the theory and principles of surgery were too briefly considered in Parker's lectures, the compensation came in the discussion and illustration of practical subjects. Gross, who lectured at the University Medical College, was a student and investigator, and discussed broadly the principles of surgery, giving less time to the details of practice.

A most accurate status of the surgery can be obtained from the viewpoint of the wards of hospitals. In 1850 Bellevue and the New York Hospitals represented the best ideals in this country. In the New York Hospital the greatest interest was manifested in fractures. The most frequent public operation was amputation. Ligation of arteries, trephining, excision of bones, were capital operations and drew together all the surgeons of the city. At Bellevue the service was confined to chronic diseases, a legacy of the former almshouse. Abscesses, caries, syphilis and similar pus-generating affections filled the wards. There was scarcely a clean, healthy wound among a thousand patients. As a result, amputations and excisions were the favorite operations of the period. Looking backward the surgeons of 1850 appeared to be men of heroic mold, and their achievements under conditions almost prohibitive of success seemed even more marvellous than the remarkable deeds of the surgeons of to-day.

Reminiscences of Medical Practice in New York During the Early History of the Academy.

DR. ABRAHAM JACOBI said that a study of the transactions of the academy during its early history showed that such men as Alonzo Clark, Fordyce Barker, J. Marion Sims, Guerdon Buck, James M. Minor, John Griscom and many others were impressed with their responsibilities and were always present at the meetings of the academy and gave their best, and much that was said might be read with profit to-day. He spoke of the work of Valentine Mott and John Tetman Batchelder, who was widely known because of his operations on tumors, stone in the bladder, ligature of the carotid, sarcoma of the maxilla and removal of the superior maxilla. He was one of the first to remove the head of the femur. John Griscom, who was made city inspector in 1842, and as such head of the health department, was successful in securing the first health laws. Through his efforts the health department ruled that no burial could take place without a permit, depending on a medical certificate. He exposed the hardships of emigration and of emigrants due to lack of food, overcrowding, absence of medical care, cruelty, bestiality of sailors, etc., which opened the eyes of the public. Many laws ameliorating the conditions of prisoners were due to his efforts. He gave reminiscences of William Currie Roberts, who founded the first infirmary for diseases of women and children, and of John W. Francis, who was a consultant of wide repute, an obstetrician, a teacher of medicine, of materia medica, of medical jurisprudence, of forensic medicine in Rutger's College and in the College of Physicians and Surgeons, of which he was the first graduate.

Book Notices

ELEMENTS OF THE SCIENCE OF NUTRITION. By G. Lusk, Ph.D., M.A., F.R.S. Illustrated. Cloth. Pp. 326. Price, $2.50 net. Philadelphia: W. B. Saunders Company, 1906.

In a historical introduction the progress of the science of metabolism is traced from its beginnings in the observations of Sanctorious through its establishment on scientific principles by the labors of Lavoisier, Liebig, Voit, Rubner and others to the present time. The seat of metabolism or the production of body energy was gradually pushed back from the lungs, where oxidation was first supposed to take place, to the tissues, and was shown to be due to the action of the tissues and not to the supply of oxygen nor the abundance of oxidizable material. The law of the conservation of energy has been fully established in regard to the metabolism of food, but the food is utilized according to the needs of the organism, and the extent of this utilization varies in response to certain conditions, but these conditions are to be conceived as the occasion and not the direct cause of the metabolic changes.

Chapter second deals with the feces and brings out the little appreciated fact that, so far as their nitrogen content is concerned, the feces form a genuine excretion comparable with the urine. Only when the carbohydrate food is excessive, or presented in an indigestible form, do the feces contain appreciable amounts of carbohydrate residue. The course of metabolism in starvation is described in chapter three, and the conclusion shown that the starving organism lives primarily on its stores of fat and circulating proteid, and only under the final necessity produced by the exhaustion of fat do the cells yield their constituent proteid. Muscular work is performed at the expense of fat, the proteid metabolism remaining very constant. The starving organism dies, most commonly, from the failure of some vital organ before the supply of nutriment is completely exhausted. The regulation of temperature forms the subject of chapter four, while the influence of proteid food and some of the anomalies of metabolism, such as cystinuria and alcaptonuria, are described in chapter five. The fact is made plain that creatinin arises from the breakdown of cells or from the creatin ingested in the food without reference to the amount of the general proteid metabolism, and that creatin can not be a precursor of urea, as was formerly supposed. The uselessness of extract of beef for nutrition is emphasized. Its value lies in its flavor, which promotes the proper flow of the digestive juice. The author further says: "It may be incidentally remarked that the principal value of 'patent' foods lies in their flavor. If agreeable to the taste of the individual they usually afford a harmless indulgence. That beef, milk, cream, butter and rice are equally suitable for all the purposes of proper living is a fact not sufficiently advertised. The old-time fraud of 'patent' foods being 'brain restorers' is as foolish a lie as can be written."

The stimulation of metabolism by the ingestion of proteid food in spite of less need of the organism when the external temperature is increased shows the unsuitability of much meat in hot weather or in tropical climates. The specific dynamic actions of foodstuffs, the influence of fat and carbohydrates, and of mechanical work complete the scientific foundation for the more practical part of the work as it is related to the needs of the physician. The subject of a normal diet is first taken up, and a tendency to approve the lower proteid standard of Chittenden is evident, although the propriety of a larger allowance in cold weather is indicated. The total calorific value of Chittenden's allowance for soldiers and men at labor is criticised as being too low.

The succeeding chapters deal with metabolism in various pathologic conditions, and the general theory is summed up in a final chapter. Metabolism is regarded as dependent on some molecular motion in the cells which causes the breakdown of the nutritive material, with slight but similar changes in their own substance. The latter changes necessitate a certain amount of constructive metabolism, which is greater during the period of growth or in convalescence. According to Folin, the amount of destruction of cell material is measured by the output of creatin and uric acid on a diet free from these substances, and is independent of the amount of proteid food. The striking fact about metabolism is its constancy under varying conditions. This indicates that it depends on the needs of the cells at the time. Excess of nutritive material does not increase it, nor is it governed by the action of enzymes. The latter are under the control of the organism, but are necessary at certain stages. Thus a ferment to effect hydrolysis of sugar is necessary before oxidation can take place. Oxygen and the oxidases may be present in ample quantity, but the sugar is not burned unless it be broken by its specific ferment.

"However clearly formulated the laws of metabolism may be, and many of them are fixed and definite as are any laws of physics and chemistry, still the primary cause of metabolism remains a hidden secret of the living bioplasm."

While the book contains comparatively little of the practical details found in ordinary works on dietetics a careful study of the facts and principles laid down can not fail to make it easier to carry out those details in a rational manner. The methods and experimental results are described with clearness so that the reader can understand the reasoning on which the conclusions are based. The author expresses the hope that the work may lead to more frequent observations on metabolism in patients in American hospitals, a phase of scientific work in which Germany has led the way. It is to be hoped that steps will be taken in this country to promote studies in metabolism in disease to compare with the work done by Atwater, Folin and the author in the physiologic field.

RATIONAL ORGANOTHERAPY, with Reference to Urosemiology. By A. v. Poehl, J. v. Tarchanoff, Alf. v. Poehl and others. Translated from the Russian Text. Vol. I. Cloth. Pp. 239. Price, $3.00 net. Philadelphia: P. Blakiston's Son & Co., 1906.

Professor von Poehl has devoted many years to the study and preparation of pure substances from organs and appears deeply impressed with the wide range of applicability of organotherapy. Some years ago he began the study of spermin, a crystalline substance which may be obtained from the testicular and prostatic secretions, and which exists also in various organs and in the blood. After obtaining spermin in a very pure form, his attention was turned to other substances which may be extracted from organs and which might have therapeutic effects. As a consequence of this work, the market now knows, or is likely to know, *Spermin-Poehl*, *adrenalinchlorid-Poehl*, *cerebrinum-Poehl*, etc. For it is gathered from the volume that these substances are the products of Poehl's own laboratory, and that a "Russian Journal for Medical Chemistry and Organtherapy" stands ready to "supply any who wish it with all possible information about the question of the therapeutic use of the different organo preparations." The subject of organotherapy appears to be treated in a rather pretentious fashion. The field is classified, the specific characters of the substances obtained from organs are described and certain principles in regard to their methods of action are proposed. In its linguistic dress the book is imposingly scientific. The names of many of Europe's famous physicians and experimenters are found on its pages and a bibliography of 569 references is added.

Spermin and *adrenal* are general catalysators, the former hastening processes of oxidation, the latter those of reduction. *Cerebrin*, *thyreoidin*, *hypophysin*, *ovarin*, etc., are specific catalysators. Of these *cerebrinum-Poehl* has been studied extensively, and it is supposed to hasten the excretion of certain products of metabolism, in such conditions as neurasthenia, epilepsy, alcoholism, etc.

The volume purports to show the importance of spermin for the oxidation processes of the body. When these processes are low it is supposed that spermin has decreased in amount or that its activity has been inhibited by toxic or autotoxic substances. In this way a system of spermin therapeutics is built up, which is made applicable to a wide range of clinical manifestations. The indication for the use of spermin, or rather for the recommendation of its use, in the group of infectious diseases is found in this expression: "In 1887 by urinalysis he (Poehl) convinced himself that most of the infectious diseases go hand in hand with decreased intraorganic oxidation and he recognized that the predisposition to different

infectious diseases is to be looked for in the autointoxications from decreased textural respiration." The probable value of spermin as a prophylactic against infectious diseases is subtly injected in the preceding quotation, and spermin is made largely responsible for natural resistance to infections in a further elaboration of the topic. In order to learn the condition of the textural respiration, of oxidation and elimination in the body, an elaborate system of urine analysis is made use of, and a number of coefficients are utilized to express the findings. It is chiefly in this way that the indications for the use of spermin are recognized, and in the same way the progress of a patient under treatment with spermin is determined.

It is the manifest object of this volume (Vol. I) to exploit spermin. When one has finished perusing its 239 pages he feels that quite an extensive system of spermin-therapeutics has been constructed, and the far-sighted may perhaps divine that those morbid conditions which do not yield readily to *Sperminum-Poehl*, may be found amenable to *Adrenal-Poehl*, *Cerebrinum-Poehl*, or *some-other-organo preparation-Poehl*. For assurance one must wait for the appearance of Volume II.

That the authors strain many points in order to fasten on spermin the responsibility of our general well-being, is to be regretted, and it is furthermore unfortunate that in quoting some of our greatest workers in infectious diseases, whose beliefs are well-known, partial truths are told in such connection that misrepresentation is accomplished.

DIAGNOSIS OF NERVOUS DISEASES. By P. Stewart, M.A., M.D., F.R.C.P., Physician to Out-Patients at the Westminster Hospital, etc. Cloth. Pp. 380. Price, $4.20 net. New York: Longman's Green & Co., 1906.

This work is much after the fashion of the *Sémiologie du Système Nerveux* of Dejerine. The only disease discussed as such is hysteria. Of 23 chapters 18 are devoted to what may be called symptoms or special manifestations of disease: namely, coma, fits and other convulsive phenomena, involuntary movements, aphasia, disorders of articulation, cranial nerves, pain and other abnormal subjective sensations, abnormalities of sensation, organic motor paralysis of the upper neuron type, organic motor paralysis of the lower neuron type, recurrent and transient palsies, incoördination, postures and gaits, thropho-neuroses, reflexes, affections of the sympathetic and angio-neuroses. Consequently, the book is of little aid in giving one information of a given affection, as apoplexy, brain tumor or tabes, but given a case showing peculiar movements, pain or palsy, the reader may learn much of such symptom and its various etiology. With 360 none-too-large pages one can not expect to find all of the symptomatology and differential diagnosis of nervous diseases, and, in fact, some of the chapters of this book seem decidedly sketchy compared with the treatment of the same subjects in more complete works. For instance, the four pages on headache are almost ludicrously inadequate; notably so the single paragraph on migraine.

Still, the work is full of valuable information and hints, and it seems to the reviewer that it may fulfill a most useful purpose as a sort of pathfinder or indicator in connection with larger and more systematic treatises. What we mean is this: Suppose a physician not very familiar with nervous diseases has a case involving cranial nerves. In this book of Stewart's he will find mentioned in some way or other the various disturbances of the cranial nerves, their causes and the diseases in which they occur. This information will easily guide him. It will show him what the case might be, and by looking up in other books the various diseases indicated he will be able to come to a definite conclusion. In other words, Stewart does not make the diagnosis for him, but enables him to make it for himself—if he really wishes to do so.

In symptomatology and diagnostic aids the work is quite up to date. It is the first text-book in which we have noticed Quinquaud's sign of alcoholism. In the text are 192 figures and two very good colored plates. The cuts, which are largely half-tones, are well selected and well executed, and the different diagrams are most satisfactory. The book has what our European colleagues so often neglect—a good index.

In short, we heartily recommend this work, not as a text-book on nervous diseases (which it does not aspire to be), but as a handy and reliable aid to the busy practitioner in the rather difficult field of clinical neurology.

TABES DORSALIS. The Lumleian Lectures, Delivered before the Royal College of Physicians, London, March, 1906. By D. Ferrier, M.D., LL.D., F.R.S. Cloth. Pp. 122. Price, $1.50 net. New York: William Wood & Company.

This little memoir treats only of certain features in tabes, and lacks any lengthy consideration of the practical matter of treatment so that it can hardly be called monographic. As far as it attempts to go however, it is one of the clearest and best statements of what we know of this much written about, but still far from completely understood, disorder. In the opening lecture a sketch of the history and changing views of its pathology is given; in the second its etiology is thoroughly discussed, and in the third the more striking symptoms, the ataxia and the pupillary manifestations which have been the subjects of recent research, are taken up. Dr. Ferrier is unqualifiedly an advocate of the specific origin of tabes, or we might perhaps better state, of the necessary antecedents of syphilis in this disorder. He admits, of course, certain difficulties in the hypothesis, for that is what it must be admitted to be, but sees no other possessing equal probability of truth. He sees in this admission of an active late elaborated toxin, possibly some internal secretion perverted by the specific disease, the best hope of future therapeutic possibilities.

A PRIMER OF PSYCHOLOGY AND MENTAL DISEASE. For Use in Training Schools for Attendants and Nurses and in Medical Classes, and as a Ready Reference for the Practitioner. By C. B. Burr, M.D., Medical Director of Oak Grove Hospital (Flint, Mich.) for Mental and Nervous Diseases, etc. Third edition, thoroughly revised. Cloth. Pp. 183. Price, $1.25 net. Philadelphia: F. A. Davis & Co., 1906.

This book fairly meets the demand for what it claims to be, a primer or elementary work on insanity and its management, suitable for hospital attendants. These are, or should be, something more than mere trained nurses, though this fact is not always duly appreciated, and we see no disadvantage in their having rudimentary instruction in psychology and such psychiatric data as will serve to educate their faculties of observation in the often difficult duties they have to perform. There is little danger of their presuming to pose as psychiatric specialists, if rightly trained, and there is a need, if not an actual demand, for trained mental nurses, not only in the hospitals but also for caring for the mentally afflicted outside—a work for which the ordinary trained nurse often shows a conspicuous unfitness.

STUDIES IN THE PSYCHOLOGY OF SEX. Erotic Symbolism, the Mechanism of Detumescence, The Psychic State in Pregnancy. By H. Ellis. Cloth. Pp. 285. Price, $2.00 net. Philadelphia: F. A. Davis & Co., 1906.

This volume is not altogether psychologic, there is considerable overstepping to at least what might perhaps be called the ultra-physiologic side of psychology, if it is psychology at all. There are also in its contents what seem superfluous portions not really essential to the truly scientific treatment of the subject matter. It is, of course, readily understood that the subject is one that is difficult to handle in a manner altogether beyond criticism. The title page gives a fairly adequate idea of the general nature of the contents of the work.

A PRACTICAL TREATISE ON MATERIA MEDICA AND THERAPEUTICS, with Especial Reference to the Clinical Application of Drugs. By J. V. Shoemaker, M.D., LL.D., Professor of Materia Medica, Pharmacology, Therapeutics and Clinical Medicine, etc. Sixth edition, thoroughly revised. Cloth. Pp. 1255. Price, $5.00 net. Philadelphia: F. A. Davis Company, 1906.

This sixth edition has been revised to conform to the new Pharmacopeia and contains an alphabetical list of medicinal agents, giving their preparations, pharmacology and therapeutic use. Considerable space has been given to unofficial preparations and these, unfortunately, are described under their proprietary or trade names, regardless of the fact that some of them have been admitted to the Pharmacopeia under other names.

Nature and Treatment of Cancer (Some Methods of Hypodermic Medication in the Treatment of Inoperable Cancer). By J. A. Shaw-Mackenzie, M.D., Lond. Third edition, revised and enlarged. Cloth. Pp. 99. Price, $1.25 net. New York: William Wood & Company.

This edition differs from the previous one only in that attention is directed to the ferments of the intestinal glands and preparations of the same in the treatment of carcinomatous growths. Several new cases are added in which the author states that trypsin treatment proved successful. He states that the natural and comparative immunity enjoyed by the duodenum and small intestine from cancer, and the slower rate of growth in the large intestine appear to give support to the medicinal treatment of such growths by means of preparations of the pancreas, intestinal glands, and bile salts, alone or in combination. Dr. Shaw-Mackenzie's methods are being tried by a number of investigators but as yet the reports are too conflicting to allow of forming any opinion as to the real value of the trypsin treatment of this disease.

A Text-Book of Pathology. B. A. Stengel, M.D. Fifth edition. Cloth. Pp. 979. Price, $5.00 net. Philadelphia: W. B. Saunders Company, 1906.

In the notice of this book, Jan. 19, 1907, page 256, the price of this book was given as $6.00 instead of $5.00, the correct price for the cloth binding.

Miscellany

A Single Medical Examining Board for the State of New York.—"The present medical laws of the State of New York," says the *New York State Journal of Medicine*, "are the best that could be secured at the time of their enactment. They have served an excellent purpose in protecting the people from the worst types of incompetence. Their value has been well appreciated; and they have been in operation long enough for their weaknesses to have been made manifest. The one weakness to which we call attention is, that the State of New York is keeping alive the so-called 'schools of medicine,' which are not entitled to be regarded as separate schools and which in reality do not exist. The homeopath and the eclectic are not peculiar in the essentials of medicine, and, so far as therapeutics is concerned, they differ no more in their actual practice from the regular practitioner than do the regular practitioners among themselves. Homeopathic and eclectic medicine have practically disappeared; still the laws of New York keep alive the delusion that they exist. Now we are confronted by the harm of the law which created three separate medical examining boards. Other 'schools' of peculiar therapeutics are demanding the same special privileges which already have been accorded to the two 'schools' now recognized by the state. The same laws, it is insisted, which apply to homeopathy, should apply to osteopathy, provided each complies with the same requirements; and the state can not much longer be made to see it in any other light. When the state recognized one peculiar sect it opened the way to recognize all. Before this absurdity has gone any further it should be stopped. There should be a single examining board, to examine into the qualifications of candidates applying for license. This board should determine particularly the candidate's knowledge of the human body and its diseases, their causes, their effects on the body, their prevention and their treatment. Of treatment, the most that we can demand is that it shall be either reasonable or authoritatively sanctioned; and the advances of medical science will constantly make this a variable subject. What was authoritatively sanctioned treatment twenty years ago would not satisfy the demands of a present-day examining board; and we may draw the same odious comparison between some of our modern therapeutics and that of twenty years hence. This board should determine that a candidate has complied with certain educational requirements, at least as high as are now insisted on; and, having a satisfactory knowledge of the science of medicine, he should be licensed and allowed much latitude in his choice of treatment. A doctor whom the state recognizes should be simply a doctor. The state should know no eclectics, osteopaths or hydropaths. Therapeutics is but a small part of the science of medicine. It should be the privilege of the licensed doctor to use small doses or large doses, massage or hydrotherapy or whatever he pleases, provided he be well grounded in the fundamentals of medicine. One of two things is going to happen: Other sects are going to demand to secure the same special privileges of an examining board which are already accorded to two sects, until the system of licensure becomes so complicated that it will be unwieldy and absurd to the degree that it will destroy itself or the people will destroy it; or now, and before it is too late, the medical profession must earnestly take hold of the matter, and of its own initiative demand the abolition of the present three-examining-boards system and its replacement by a single board of impartial judges of the qualifications to practice the healing art."

Must the Surgeon Warn the Patient of the Danger of Sudden Death Under Chloroform.—The heirs of a man who had died suddenly in the course of an operation under chloroform sued the surgeon for $10,000 damages for neglect to warn the patient of the danger of sudden death under chloroform. The local court awarded $1,600 damages, claiming that there was no vital necessity for the operation, and that the patient was addicted somewhat to alcohol which rendered the chloroform particularly dangerous for him, and that he had not been warned of its dangers. The court of final appeal, however, reversed this decision. The *Semaine Méd.* for November 28 gives the full text of the final verdict. Referring to the patient's alcoholism and tendency to syncope, the judge said: "All physicians are unanimous in declaring that alcoholism is not a contraindication to the use of chloroform; injured workmen are frequently put under the influence of chloroform in the hospitals in Paris, even when they are drunk at the time, in order to undertake without delay some necessary operation. The two syncopes observed under the influence of the pain when the patient's arm was moved are no evidence that he was peculiarly predisposed to syncope when the pain should be abolished by the anesthetic." Referring to the second plea—that the operation was not a vital necessity—the judge said: "It is absurd to assert that anesthetics should be used only when the life of the patient is in danger. Such a limitation would deprive the wounded and persons suffering from serious affections, requiring surgical intervention, of the relief offered by anesthesia. Chloroformization reduces rather than augments the dangers resulting from operations; the frequently intolerable sufferings occasioned by an operation would certainly entail fatal syncope oftener than the anesthesia does." The third plea—the necessity for the surgeon's warning the patient of the immediate or contingent dangers to which anesthesia would expose him—was answered by the judge as follows: "Considering that the chances of death from chloroform are very slight (1 to 2,000), and that the danger of sudden death under chloroform seems to lie more in the personal impressionability of the patient, and that this impressionability, and hence the danger itself, would be increased if he were informed beforehand of all the immediate and contingent perils to which the anesthesia might hypothetically expose him; considering that it is the duty of the physician, on the contrary, to reassure the patient, to inspire confidence and to seek to dispel from his mind the apprehensions which can only be ominous for him; considering further, that if Dr. Y did not formally warn the patient in this case, of the dangers which the chloroformization presented, the latter was certainly aware of them since he remarked to the assistant at the operation: 'You will come to my funeral, won't you?'; considering that the patient did not fear death, as otherwise he would not have consented to the anesthesia, but that he had a general idea, as every one has, that the use of chloroform is not exempt from peril, and considering, in short, that Dr. Y was in nowise responsible for the death of X, the plea for damages is denied and the costs of the suit imposed on the plaintiff."

The Nursing Profession and Proprietary Medicine Testimonials.—If the standards of the medical profession are not sufficiently high and noble it may be of benefit for its members to measure up to the standards of some other profession. We are fond of extolling our profession and in declaring that

we yield the palm to no other calling in loftiness of ideals. Let us pause a moment, therefore, and listen to what is said to the nurse, the handmaid of medicine, by the *American Journal of Nursing*: "The first flagrant abuse of the R.N. (registered nurse) has come to our knowledge, and we want to be understood as absolutely condemning the practice of nurses in lending their names to the endorsement of proprietary medicines of any kind. We have in our possession a letter of such endorsement signed by a graduate of one of the Brooklyn hospitals, who is the chairman of a membership committee of a state having registration. We think her alumnæ association and the state society of which she is a member should take this matter in hand, and that in all cases of this kind the offense should be considered sufficient ground for depriving a nurse of her registration certificate. A woman who lends herself to such practices brings disgrace on the whole nursing body." We have a faint recollection of having seen, somewhere, some time, a testimonial published by the manufacturers of a proprietary medicine, which purported to have been given by a reputable practitioner. We do not remember that this prominent member of the profession was disciplined for this or that it awakened any stir. Our memory may be faulty, however.

Continuous Sleeping After Head Injury.—Eulenburg reports in the *Med. Klinik* for October 21, the case of a lawyer, about 45 years old, who slipped in alighting from a trolley car and fell on the back of his head. The fifth day an uncontrollable tendency to sleep was observed, and he has been sleeping continuously during the twenty-seven months since. He lies in bed, his forehead corrugated as if in deep thought, the superficial reflexes attenuated and the deep ones intensified. During all these months he has never opened his eyes nor spoken a syllable and droops forward, fast asleep, when lifted into a chair. He is fed at regular intervals and chews slowly and swallows without strangling. The family history shows a certain tendency to nervous affections, and for a year or so before the accident the patient had displayed considerable forgetfulness and apathy. At the time of the accident he was facing criminal proceedings for failure to report the receipt of a sum of money paid to him. Eulenburg reviews the few similar cases in men on record. In Holzinger's case the patient, a man of 60, had resided in the tropics and there was a suspicion of true "sleeping sickness." Tiling, Schultze and others have described spells of profound slumber lasting for a few minutes to several hours, in epileptics.

Food Value of Indian Corn.—Experiments conducted at the Maine Agricultural Experiment Station by L. H. Merrill, and published in the October, 1906, bulletin, indicate a high nutritive value for this cereal. Digestion experiments were carried on to determine the absolute and relative digestibility of cornmeal and the other principal corn products, both when used as a simple diet and when forming part of the mixed diet. The degree of utilization of the proteins and the carbohydrates were separately determined, as well as the proportion of available energy as heat of combustion. The carbohydrates are almost completely utilized, while the proportion of protein undigested varied from 5 to 10 per cent. The experiments indicate that these foods become more digestible when eaten with other foods. In general it may be said that the corn products are more digestible than is commonly supposed. Not only their digestibility, but their cheapness and the readiness with which they may be converted into palatable foods suggest a more extended use and entitle them to a much higher place in popular estimation. Similar experiments with chestnuts are reported in the same bulletin. The composition of the dry meat of chestnuts closely resembles that of Indian corn, with, however, a larger percentage of fat. Digestion experiments showed that the nuts were quite digestible, in one experiment 98.1 per cent. of the nutritive constituents being absorbed. The chestnuts were eaten in the form of flour.

The Responsibility of Accoucheurs.—A British physician has lost his fees under the following circumstances: A woman, whom he was engaged to attend in labor, was delivered before his arrival. He asked the nurse to examine the placenta. On the following days he asked the nurse if she was douching the patient, and when told that she was, asked if she had boiled the tube. He was told that she had not. On the fifth day there was a rise of temperature and again on the ninth. On the fifteenth day there was a rigor; a consultation was held, and an offensive portion of the placenta was removed. Death from septicemia followed. When the physician sent in his bill for $65 the husband refused to pay and claimed $250 for neglect. The case was taken to court. In her evidence the nurse stated that she told the physician that the lochial discharge was offensive, but that he having a cold did not notice the smell and so made no examination until alarm was caused by the rigor. The jury found that in not making an examination at this time he had committed an error of judgment and was therefore not entitled to his fees. They also found damages against him for the nominal amount of 24 cents.

Hysteria as Pithiatism.—J. Babinski of Paris defines hysteria as the neurosis constituted by all the disturbances which are susceptible of being cured by persuasion, direct or indirect. Suggestion engenders the neurosis, but it can be cured by persuasion alone. To emphasize this conception he proposes to call it pithiatism, from the Greek words *peitho*, persuasion, and *iatos*, curable. This descriptive term would differentiate once for all the phenomena of hysteria, curable by persuasion, from allied phenomena on which persuasion has little if any action. The persuasion may be from an emotion, from the confidence inspired by the physician, the belief in some mysterious power, in the curative virtue of some remedy or the occult influence of some new cult—whatever the source of the persuasion, the mental process which terminates in a return to normal is not opposed to common sense. The benefit of psychotherapy is not confined to hysteria, but the latter is the only affection susceptible of being cured by it alone without other measures. Babinski recently presented his views on the subject at a meeting of the Paris internes, and his address is reproduced in the *Tribune Médicale* for Sept. 22-29.

Lacerda's "Zoospore" as Microbe of Yellow Fever.—J. B. de Lacerda announced a few years ago that yellow fever was the result of the action of a germ found in the blood of yellow fever patients, to which he gave the name of "zoosporo." His communications on the subject to the Brazilian Academia Nacional de Medicina stated that the germ is found in the blood and also in the liver in yellow fever. It secretes a very virulent toxin which is responsible for the clinical picture observed. The zoospore is inoculated by the mosquito but completes its life cycle in man. Inoculation of animals not only reproduces the disease but causes the development of the lesions characteristic of yellow fever, especially those in the liver. He has recently published an answer to the American Commission and to the French Commission, both of which found the zoospore as he described it but denied it etiologic importance. In his reply he reports additional experiences and tests which he believes establish beyond question the etiologic rôle of the zoospore. The *Brazil Medico* for October 22 reviews his work and speaks in appreciative terms of the highly scientific character of his painstaking research.

Etiologic Treatment of Syphilis.—L. Spitzer reported at the recent German Dermatologic Congress at Berne that he has now a record of 20 syphilitic patients treated according to Kraus' technic with 2 c.c. of a suspension of the initial sclerosis, increasing the strength from .5 per cent. to 2 per cent., injected subcutaneously. Seven of the patients have shown no signs of secondary phenomena during the twenty-four months since. The rapid subsidal of the enlarged glands in the vicinity is a special feature of the treatment. Since the discovery of the spirochete in syphilitic lesions it is possible to differentiate them and commence treatment much earlier. The material injected was derived from the initial sclerosis of various patients at various stages of the process, which explains the lack of constancy in the results observed. While these 20 patients were being treated with the suspension, 60 others were receiving ordinary treatment, and secondary phenomena were observed in all of the latter group, while only 13 out of the 20 receiving the specific treatment presented them. His communications on the subject have been published in the *Wiener klin. Wochschr.*, the last in No. 38.

Grafting a Kidney.—The *Semaine Médicale* for October 3 contains an account of the implantation of a kidney from a pig and from a goat in 2 women whose kidneys had been destroyed by irreparable lesions. Jaboulay of Lyons transplanted the kidney into the bend of the elbow, inserting the stump of the renal vein in the severed median cephalic vein, and the renal artery in the brachial artery, the ureter pointing toward the inner side of the elbow. As soon as the tourniquet above was released, the implanted kidney could be seen distended with the arterial blood. One patient was in an advanced stage of Bright's disease, and voided only 500 c.c. of urine during the day. After this operation she voided 1,500 c.c., but it was found the third day that clots had obstructed the lumen of the anastomosed vessels, and the graft had to be removed. The ureter contained a fluid which responded to the tests for urine—the graft had thus "taken," which fact was confirmed by histologic examination, but the thrombosis compromised its success. The same occurred also in the second case. The wounds in both healed smoothly.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

NEVADA State Board of Medical Examiners, Carson City, February 4. Secretary, Dr. S. L. Lee, Carson City.

KANSAS State Board of Medical Registration and Examination, Topeka, February 12. Secretary, Dr. F. P. Hatfield, Grenola.

NEBRASKA State Board of Health, State House, Lincoln, February 13-14. Secretary, Dr. George H. Brash, Beatrice.

Rules Governing Examinations in Indiana.—Dr. W. T. Gott, secretary of the State Board of Medical Registration and Examination of Indiana, sends us the following rules governing examinations for license to practice medicine in that state:

1. An examination is required of applicants who desire to practice medicine in Indiana. The law making this requirement went into effect March 11, 1901.

2. Applicants who have been licensed by other state examining boards may be admitted by reciprocity provided rules of the Indiana board governing reciprocity are strictly complied with. (These rules may be obtained on application).

3. All applicants are required to fill completely and correctly an application blank furnished by the board. The statement contained in the application must be sworn to before an officer authorized to administer oaths.

4. All applicants for examination must submit diploma, fee and recent photograph of self. Diploma must have been issued by a recognized medical college. Applicants for license on basis of reciprocity must appear in person before the secretary or chief clerk of the board, for identification.

5. Non-resident applicants are under no circumstances issued permanent certificates until they have become bona fide citizens of Indiana by living in the state six months.

6. Examinations are conducted by the secretary and one or more members of the board assisted by the clerk and two monitors. Questions are prepared by the members of the board according to subjects assigned. A meeting is held a few days preceding the examination and question lists are revised and adopted; they are then mimeographed in the office of the board and sealed in separate packages and put under lock and key. The seals are not broken until the hour assigned for each subject has arrived, but one list of questions being distributed at a time.

7. Each applicant is provided with chair, table and blank book with name of subject printed on the cover of each. The set of questions for that subject are distributed with book to each applicant.

8. Chairs and tables are placed in position the evening before the examination. Each table is numbered, cards are numbered corresponding to the numbers on tables. These cards are placed in unsealed envelopes and put into a box and candidates required to draw an envelope. The candidate will be required to sit at the table corresponding to the number drawn. He is required to sign his name on the card and himself replace the card in the envelope and seal it. Each manuscript is signed by the number drawn by candidate. Under no circumstances will the candidate's name be allowed to appear on the examination paper. Candidates are not allowed to leave the room unless accompanied by a monitor.

9. Applicants are not permitted to communicate with each other, nor to have in their possession help of any kind; if detected violating these rules, the candidate is excused from the examination and his papers destroyed.

10. At the close of each examination, manuscripts are collected and sent by express to the member of the board having charge of that subject. Each member examines and marks each candidate by placing the marking opposite the candidate's number. These markings are sent to the clerk who tabulates them and presents the same at a meeting of the board which is held as soon as the tabulation is completed. The sealed envelopes containing the names are then opened and names placed opposite the corresponding numbers.

11. The following are the subjects of the Indiana examination: Anatomy, pathology and bacteriology, etiology and hygiene, physical diagnosis, physiology, materia medica and therapeutics, medicine, ophthalmology and otology, gynecology, surgery, chemistry, obstetrics, medical jurisprudence, rhinology and laryngology, neurology and pediatrics.

12. The same set of questions are submitted to the applicants of the various schools, except materia medica and practice, which are arranged for the school of practice to which applicant belongs. Manuscripts on these subjects are sent to the representatives of each school.

13. All applicants having been graduated subsequent to February, 1903, are required to submit with medical diploma, preliminary credentials which admitted entrance to medical college. The said credentials must set forth exact basis on which credentials were obtained, bearing the seal of the institution or examining board issuing same.

Rules Governing Examinations in Michigan.—Dr. B. D. Harison, secretary of the Board of Medical Registration and Examination, has sent us a statement showing the number of questions asked in the various branches and the rules governing the licensing examination. These are as follows:

QUESTIONS.

In the examination a total of 100 questions are asked, divided among the various subjects as follows: Anatomy, 10; histology and embryology, 5; physiology, 10; chemistry and toxicology, 10; bacteriology, 5; pathology, 10; medical jurisprudence, 5; eye, ear, nose and throat, 5; obstetrics, 5; surgery, 10; medicine (including neurology and pediatrics), 10; hygiene, 5; gynecology, 5; materia medica and therapeutics, 5.

RULES FOR EXAMINATION.

1. Help of every kind must be removed from the reach and sight of the candidate. Any candidate detected in trying to give or obtain aid will be instantly dismissed from the room and his or her papers for the entire examination canceled.

2. Questions will be given out and answers collected punctually at the time specified for that subject. Under no circumstances will papers be accepted unless the examination be actually held at the appointed time.

3. If any candidate withdraw himself or herself without permission from the sight of the examiner, his or her examination shall be closed. The rule permits a candidate, temporarily ill, to withdraw from the room and return only by consent of the examiner.

4. No candidate shall, under any circumstances, enter the examination more than thirty minutes late, unless excused by the examiner; and no candidate shall leave the room within thirty minutes after the distribution of question papers.

5. Unseemly and disrespectful conduct on the part of a candidate or a violation of these rules or the order of an examiner, will subject such candidate to instant dismissal from the examination room. Candidates under the influence of liquor in any degree will in like manner also be dismissed. In the event of such dismissal the candidate's papers for the entire examination will be canceled.

6. The examination shall continue three days; the sessions of the day beginning at 8:30 a. m. The results of the examination will be announced on receiving the several reports from the examiners.

Illinois October Report.—Dr. J. A. Egan, secretary of the Illinois State Board of Health, reports the written examination held at Chicago, Oct. 17-19, 1906. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 76, of whom 59 passed, 10 failed and 7 did not complete the examination. The following colleges were represented:

College.	Year Grad.	Per Cent.
PASSED.		
American Med. Miss. Coll.	(1906)	86, 88, 89
Bennett Coll. of Ecl. Med. & Surg.	(1906)	76
Dearborn Med. Coll.	(1906)	75
Hahnemann Med. Coll., Chicago	(1906)	76
Hering Med. Coll.	(1906)	75
Illinois Med. Coll.	(1906)	75, 77, 81, 82, 85
College of Medicine and Surgery, Chicago	(1906)	75, 76
National Medical University, Chicago	(1905) 86; (1906)	76, 85
Northwestern University	(1900) 85; (1906)	84, 88
College of P. & S., Chicago.	(1905) 84; (1906)	76, 77, 77, 83, 84, 84
Rush Med. Coll. (1896) 76; (1901) 80; (1905) 86; (1906)		80, 84, 85, 85, 85, 85, 85, 85, 86, 87, 88, 89, 89, 89.
Kentucky School of Med.	(1905)	85
Boston University	(1903)	85
Barnes Med. Coll.	(1904) 80; (1906)	75, 78
Marion-Sims-Beaumont Med. Coll.	(1897) 83; (1906)	75, 81
College of P. & S., St. Louis	(1906)	75
Creighton Med. Coll.	(1906)	81
Medical College of Ohio	(1906)	87
Miami Med. Coll., Cincinnati	(1905)	83
Jefferson Med. Coll.	(1906)	83
Western Med. Coll., London, Ontario	(1904) 86; (1905)	83
FAILED.		
Dearborn Med. Coll.	(1906)*	
Hahnemann Med. Coll.	(1906)*	
Harvey Med. Coll.	(1899)*	
Jenner Med. Coll.	(1906)*	
Keokuk Med. Coll., Coll. of P. & S.	(1905)*	
College of P. & S., Chicago	(1902)*	
University of Louisville	(1906)*	
Barnes Med. Coll.	(1905*) (1906)*	
College of P. & S., St. Louis	(1906)*	

* Percentage not given.

Ohio December Report.—Dr. George H. Matson, secretary of the Ohio State Board of Medical Registration and Examination, reports the written examination held at Columbus, Dec. 11-13, 1906. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 34, of whom 23 passed and 11 failed. The following colleges were represented:

College.	Year Grad.	Per Cent.
PASSED.		
Columbian University, Washington	(1904)	84, 85
Howard University	(1906)	79
Rush Med. Coll.	(1906)	84, 86, 95
American Med. Miss. Coll., Chicago	(1906)	86
Kentucky University	(1901) 75; (1906)	79
Johns Hopkins Med. School	(1904)	84
College of P. and S., New York	(1905)	87
Long Island Coll. Hosp.	(1898)	86
Med. Coll. of Ohio	(1887) 91; (1905) 87; (1906)	79
Western Reserve University	(1904)	86
Jefferson Med. Coll.	(1904) 83; (1906)	86
University of Pennsylvania	(1905)	92
Hahnemann Med. Coll. and Hospital, Philadelphia	(1906)	80, 88
University of Toronto, Ont.	(1905)	76
Western University, London, Ont.	(1906)	76
FAILED.		
Illinois Med. Coll.	(1906)	67
University of Maryland	(1906)	66
New York Homeo. Med. Coll.	(1906)	69
Eclectic Med. Institute, Cincinnati	(1906)	63
Starling Med. Coll.	(1906)	62, 66
Ohio Med. University	(1906)	63
Miami Med. Coll.	(1900)	69
Toledo Med. Coll.	(1904)	56
Western University of Pennsylvania	(1905)	73
University of Naples, Italy	(1905)*	

* Candidate was dismissed.

Ohio Reciprocity Report.—Dr. George H. Matson, secretary of the Ohio State Board of Medical Registration and Examination, sends us a report of physicians licensed through reciprocity, Jan. 8, 1907. The following colleges were represented:

College.	Year. Grad.	Reciprocity with.
Coll. of P. and S., Chicago	(1904)	Illinois
Northwestern University	(1905)	Illinois
Rush Med. Coll.	(1906)	Illinois
Bennett Col. of Ecl. Med. and Surg.	(1906)	Illinois
Hering Med. Coll.	(1905)	Illinois
Hahnemann Med. Coll., Chicago	(1905)	Illinois
Medical School of Maine	(1901)	Maine
University of Maryland	(1900)	Maryland
Michigan Coll. of Med. and Surg.	(1906)	Michigan
University of Michigan, (1902) Maine; (1903) (2, 1904) (3, 1905)		Michigan
Toledo Med. Coll.	(2, 1906)	Illinois

Texas October Report.—Dr. T. T. Jackson, secretary of the Board of Medical Examiners for the State of Texas, reports the written examination held at Houston, Oct. 16-18, 1906. The number of subjects examined in was 12; percentage required to pass, 75. The total number of candidates examined was 37, of whom 30 passed and 7 failed. The following colleges were represented:

College.	Year Grad.	Per Cent.
PASSED.		
Columbian University, Washington	(1892)	88
Rush Med. Coll.	(1903) 79; (1906)	88.4
College of P. and S., Chicago	(1906)	79.6
Dearborn Med. Coll.	(1904)	82.5
Jenner Med. Coll.	(1904)	76.1
Louisville Med. Coll. (1904) 75; (1905) 80.4; (1906)		75, 75.7, 83.1
Kentucky School of Med.	(1906)	75.7
Tulane University	(1906)	81
Baltimore Med. Coll.	(1906)	82
University of Maryland	(1906)	85.4
University of New York	(1899)	85
Jefferson Med. Coll.	(1906)	82.6
Southwestern University, Dallas	(1906)	77.2, 77.3, 82.4
Baylor University	(1906)	77.5, 78
Meharry Med. Coll.	(1906)	82.8
Vanderbilt University	(1904)	80
University of Texas	(1905) 77.5; (1906)	76.5, 86.8 87.7
Undergraduates		82.5, 85.6
FAILED.		
Atlanta Coll. of P. and S.	(1906)	70.4
Illinois Med. Coll.	(1903)	65.2
Dearborn Med. Coll.	(1905)	74
Louisville Med. Coll.	(1906)	71.2
Hospital Coll. of Med., Louisville	(1903)	71.5
Southwestern University, Dallas	(1905)	71.9
Undergraduate		58.2

Texas Reciprocity Report.—Dr. T. T. Jackson, secretary of the Board of Medical Examiners for the State of Texas, sends us a report of physicians licensed through reciprocity during the year 1906. The following colleges were represented:

College.	Year. Grad.	Reciprocity with.
Kentucky School of Med.	(1894)	Virginia
Memphis Hosp. Med. Coll.	(1904)	Virginia
University of Pennsylvania	(1906)	Virginia
University of the South	(1901)	Virginia
University of Nashville	(1906)	Virginia
University Coll. of Med., Richmond	(1899)	Virginia
University of Virginia	(1899)	Virginia
Med. Coll. of Virginia	(1906)	Virginia

University of Minnesota Endorses Higher Preliminary Requirements.—The following resolution was unanimously adopted by the faculty of the College of Medicine and Surgery, Oct. 2, 1906:

WHEREAS, The Council on Medical Education of the American Medical Association and the National Confederation of State Licensing and Examinnig Boards, at a joint meeting held in Boston, adopted as the minimum requirement for beginning the study of medicine, a four-year high school education plus one year of chemistry, physics, biology and languages, this requirement to apply to all students beginning the study of medicine after Jan. 1, 1910, be it

Resolved, That the College of Medicine and Surgery, University of Minnesota, regard this requirement as an important step in the right direction, and sincerely hope that by that date all the medical colleges in the United States will be operated under this or a higher entrance requirement. The entrance requirements of many of the leading medical schools are considerably in advance of this requirement at the present time, and we regret that the requirement could not be made operative at an earlier date than 1910.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulæ and outlines of treatment are answered in these columns.]

Typhoid Fever.

W. S. Thayer, in the *Maryland Med. Jour.*, discusses the prophylaxis of typhoid fever. It is recognized in all medical treatment to-day that preventive medicine holds a position of almost equal importance as the actual treatment of disease. The practitioner is confronted constantly with the problem of how to prevent the spread of all forms of infectious diseases. Thayer discusses the means of control of the spread of typhoid fever. In order successfully to combat the dissemination of infectious diseases the physician must acquaint himself with the means by which the disease is spread. The author first discusses the sources of infection and, second, the habitat. He states that infection takes place usually through the gastro-intestinal tract, possibly at times by inhaled air.

METHOD OF ENTRANCE OF TYPHOID BACILLI INTO THE FOOD AND DRINK.

The rôle of water has been and probably is largely overestimated by the general public, mainly owing to the fact that the common water supply, if infected, may, and not infrequently does, give rise to larger and more striking epi-

demics than can arise in any other way. An infected general water supply, however, is directly of relatively little importance in the ever-prevailing country epidemics which are responsible for so many deaths each year. Indirectly, however, in both country and city, water often plays an important part. A slightly contaminated supply, of which, perhaps, many individuals might drink without serious effect, may well serve now and then to convey the infection to some substance such as milk, which is an excellent culture medium for the organism. If one bacillus, for instance, were left in a milk can which was rinsed with infected water, there would develop in a few hours in milk enough bacilli to affect many people. Epidemics of typhoid fever due to infected milk are of common occurrence in urban as well as in rural populations. The rôle of ice has been much discussed. It is not very important, but is a possible source of infection.

There can be little doubt that in some instances green vegetables, such as lettuce and celery, which are eaten raw, may serve as conveyers of infection. Human dejecta are often used as manure for gardens in which these substances are grown. The author quotes the opinion of several eminent observers to show that dust may be a potent means of spreading this disease.

Evidence is all sufficient to show that the ordinary house fly is a carrier of typhoid bacilli from dejecta, and contamination of food by flies may probably be regarded as one of the main sources of the spread of the disease in the rural districts. When one reflects on the ordinary sanitary arrangements of the simple country house he must feel that it would be strange if this were not so.

Another source of the spread of typhoid fever has been by no means sufficiently recognized, namely, that of a direct contact either with the patient or with fomites. Typhoid bacilli are frequently present, not only in the stools and urine of the patient, but also in his sputa, and those who attend him must be constantly exposed to the danger of soiling their hands with infected material. Convalescents from typhoid may carry the bacilli in their system for considerable periods of time. Bacilli also live for months in blankets and clothing. "It can not be too much emphasized," says Thayer, "that every case of typhoid fever comes from another; that the typhoid bacillus gets into the external medium only from a case of human typhoid fever, and that it escapes from the human being by means of the feces, of the urine, of the sputa, of the bath water, of the soiled clothes."

(This subject will be continued.)

Acute Bronchitis.

In the mild forms of this disease Yeo recommends that the patient be put to bed in a room with a temperature between 65 and 70 degrees F. The air of the room should be kept moist by causing steam to be diffused throughout the apartment. Warm drinks should be given freely—barley water, linseed tea, thin gruel, or hot milk mixed with seltzer, Apollinaris, or soda water. These promote expectoration and relieve cough. Yeo thinks that the remedy *par excellence* to relieve the distressing dryness of the mucous membrane in the early stage of the acute bronchial catarrh is antimony, especially when combined with small doses of opium. He recommends:

℞.	Pulv. opii et ipecac	gr. v-x	30-.60
	Spts. ætheris nitrosi	3i	4
	Liq. ammonii acetatis	3iii	12
	Aquæ camphoræ	℥iss	45

M. Sig.: Take at one dose. Follow with a saline aperient the next morning.

When there is not much fever the following mixture may be given to adults to relieve the cough, dryness and soreness of the mucous membrane:

℞.	Vini antimonalis	3iss	6
	Liq. morphinæ acetatis (B. P.)	3ss	2
	Aquæ laurocerasi	3ii	8
	Syrupi	3iii	12
	Aquæ dest. q. s. ad	℥vi	180

M. Sig.: Two tablespoonsful every three or four hours.

This should be given less frequently as the symptoms subside. Morphin should be avoided in old persons or in those who do not stand the drug well. Codein may be substituted in doses of from 1/6 to 1/4 grain.

If there is much fever the following is useful:

℞.	Tincturæ aconiti	m. xii		75
	Vini antimonalis	3ii	8	
	Liq. morphinæ acetatis (B. P.)	m. xl	2	40
	Aquæ camphoræ q. s. ad	℥viii	240	
	Liq. ammonii acetatis	℥iss	45	

M. Sig.: Two tablespoonsful every two or three hours.

For young children omit the morphin and add one-half ounce of syrup of tolu and give one or two teaspoonsful, according to the child's age. Much relief is often obtained by applying a large hot poultice over the top of the chest, in front and behind. In the milder forms, with this treatment the attack rarely lasts for more than a day or two, and the scanty, sticky expectoration is replaced by a more abundant mucopurulent secretion. It is then advisable to discontinue the antimony and morphin except at night for relief of the cough. An alkaline mildly stimulating expectorant is now useful.

℞.	Infusii senegæ	℥iii	90	
	Sodii bicarbonatis	3i	4	
	Sodii chloridi Ammonii carbonatis, āā	gr. xxiv	1	44
	Syrupi tolutanus	3iii	12	
	Aquæ dest. q. s. ad	℥vi	180	

M. Sig.: Two tablespoonsful every six hours.

A pill containing a grain and a half of quinin and a quarter or half a grain of powdered ipecac may be given two or three times a day, and will promote convalescence.

Acute Lumbago.

Flemming, in the *Bristol Medico-Chirurgical Journal*, states that in some cases of lumbago nothing gives so much relief as acupuncture. The more acute the pain, the more sudden the onset, and the greater the local tenderness, the more likely is this procedure to give relief. The needles should be inserted deeply, two inches or more, into the tender muscular masses at the sides of the spine, left in for two or three minutes, and followed by a fomentation. Twenty minutes or a half-hour afterward the patient must get up and walk. This should be followed by deep massage night and morning, and care should be taken that bowels, skin and kidneys act well. When a patient will not submit to this treatment then a dose of calomel should be given, large fomentations applied at once and some diaphoretic and diuretic drug given hourly.

The following has been recommended:

℞.	Atropinæ sulphatis	gr. i	06
	Morphinæ sulphatis	gr. xvi	1
	Aquæ dest.	℥i	30

M. Sig.: Inject 5 minims deeply into the muscles of the back.

Medicolegal

Life Tables and Sex—Expectancy of Plaintiff Spouse.

The Supreme Court of Iowa says, in the case of Croft vs. the Chicago, Rock Island & Pacific Railway Company, where a husband sought to recover for loss of services of his wife occasioned by her injury, that experience tables, showing the expectancy of human life, were introduced in evidence by the plaintiff, over the objection of the defendant, showing the expectancy of the wife to be about 30 years from the date of her accident. It was argued that the life table was not competent evidence because it did not purport to give the expectancy of a female. But this court does not take judicial notice of the statements contained in a life table, and in the state of the record before it, which contained no more than a statement that the life table was introduced showing the expectancy of life at certain ages, it must assume that the trial court, after examining the table, correctly held that it was admissible as bearing on the expectancy of a female. Should this court infer, however, that the table was general in the sense that it made no reference to sex, it would still be disposed to hold that it was admissible. Counsel presented no reason for making any distinction as to longevity as between

the sexes, and the barren record before the court does not warrant a holding that there is any.

Another ground of complaint was that the measure of recovery was made to depend solely on the expectancy of the wife, no heed being given in the instruction to the life expectancy of the husband. And the court says that as no attempt was made by direct evidence to show the age or expectancy of life of the plaintiff, this contention for error might under other circumstances present a question of more serious import. Thus it is probable that in a case, as supposed by counsel, of an aged husband and a youthful wife the expectancy of the husband should be taken into account in estimating his damages. But no such effect can be given here to reverse the judgment. For one thing, there was sufficient in the record to indicate that the plaintiff was a man in middle life, and hence that there was no considerable disparity between his age and that of his wife.

Not Required to Resort to Surgery to Construct Wife.

The Court of Appeals of Kentucky says that in the case of Mutter vs. Mutter the husband sought an absolute divorce on the ground of such malformation on the part of the wife as to prevent sexual intercourse. The proof showed that the wife was a woman of mature years, more than 40 years of age; that the husband was a widower, some years her senior; that they lived together but three days, when he took her home to her nephew's and left her there, alleging that she was not a natural woman, and that he had been deceived and defrauded into marrying her. It was further shown that the wife was not a naturally, or normally, formed woman, but that the opening in the hymen was abnormally small, so much so that it amounted to malformation; that in her condition it was impossible for her to have had sexual intercourse; in fact, the condition of the hymen was such that it even prevented perfect menstruation. These facts were known to her before marriage, but she did not acquaint him with them. The physicians who testified in the case said that, through the aid of medical science, she might be enabled to fill the proper place of a wife, but on this point they were not entirely certain that a perfect result could be obtained, either by dilatation or by the use of a knife. The husband declined to resort to the means suggested by the physicians, and declined to live with his wife.

The court is of the opinion that the husband was not required, or called on, to resort to surgery in order to construct a wife. He had a right to expect to find his wife of natural build and proportion, and, when such malformation existed as would, and did, prevent sexual intercourse, and this fact was concealed from him by the woman until after marriage, he was entitled to the decree granted. He was in no wise at fault, but the fault was wholly with the wife. She deceived him into marrying her by concealing from him her true physical condition. The word "fault" as used in the statute means more than a wrong—an error—a deviation from the rules of propriety; it means, also, a defect, or blemish, or impairment of excellence, and it is in this latter sense that she was in fault, and, being in fault, she was not entitled to alimony. The husband should not be made to suffer because of the wrong or fault of the wife.

Requisites of Affidavits of Physicians as to Imbeciles.

A Kentucky statute provides that no inquest shall be held unless the person charged to be of unsound mind or an imbecile or incompetent to manage his estate is in court and personally in the presence of the jury, and his personal presence shall not be dispensed with unless it shall appear by the oath or affidavit of two regular practicing physicians that they have personally examined him, and that they verily believe him to be an idiot or lunatic or incompetent to manage his estate, as the case may be, and that his condition is such that it would be unsafe to bring him into court. This statute, the Court of Appeals of Kentucky says, in the case of Tipton vs. Tipton's committee, is mandatory, and its provisions must be strictly complied with. The presence of the person charged to be of unsound mind, or affidavits in strict conformity to the letter of the statute, are indispensable to confer jurisdiction on the court. In the absence of the person, and sufficient affidavits, the court has no jurisdiction to hear the case, and its judgment is absolutely void.

In this case the affidavit, stated to be made by two regular practicing physicians, declared that they "appeared before the undersigned judge, and state on oath that they have examined said Tipton and find him to be a feeble-minded person, and, in their opinion, is incapable of managing his estate; and, from information of his relatives and acquaintances, they believe it unsafe to bring him before the court." The court holds that this was insufficient. It says that it will be observed that the affidavit fails to state that the physicians personally examined Tipton, nor does it state when the examination was made, nor "that his condition is such that it would be unsafe to bring him into court." They express the opinion that it would be unsafe to bring him into court, but this opinion is not based on knowledge gained from a personal examination, but from information obtained from his relations and acquaintances, and may or may not be true.

It is an important and serious matter to declare a person to be of unsound mind, or an imbecile, or incompetent to manage his estate, and to take his property out of his possession and place it in the custody of a committee, and when an attempt to do this is made, the person affected has the right to be and must be in court, so that he may protect his rights, and see the judge and jury who are assembled to deprive him of this valuable privilege, and the judge and jurors have the right to see the person whose mental condition is called in question. This statutory right can not be dispensed with unless the condition of the person is such that it would be unsafe to bring him into court, and his condition must be established by the affidavits of two regular practicing physicians, or their testimony in open court, who have personally examined him immediately before, or so close to the time of the trial as to render it improbable that any material change should have taken place in his condition between the examination and the time of the trial, and the affidavits should state the date when the examination was made, and describe the conditions that render it unsafe to bring the person into court.

Evidence Not Conclusive of Consumption—Going to Colorado—Definition of Illness—Not Consultation.

The Supreme Court of Vermont says that in the case of Schofield's administratrix vs. Metropolitan Life Insurance Company, the defendant's evidence tended to prove that at the time the policy sued on was obtained by the insured he had consumption. This evidence was based on opinion formed for the discovery of tubercle bacilli in the sputum of the insured, and on personal examination. Medical authority, produced by the plaintiff, however, testified that it was not conclusive evidence that the insured had consumption because tubercle bacilli were found in his sputum, and that, his sputum having been examined on a later date, and two tests having been made, and no tubercle bacilli then being found, the conclusion naturally followed that the tubercle bacilli found on the former occasion were not the product of consumption, but were a result often obtained from the examination of the sputum of a healthy person. In addition, the defendant's examining physician testified that in his judgment the insured did not have consumption at the time of making his examination, and the testimony of several other witnesses tended to prove that he did not die of consumption. The court holds that there was no error in refusing to direct a verdict for the defendant, claimed on the ground that there was a breach of the waranty of the applicant that he had never had consumption.

Nor does the court consider that it was error to deny the request of counsel for the defendant for leave to argue to the jury that California and Colorado were places where consumptives go. A large portion of the defendant's brief was devoted to a discussion of the question of whether this court will take judicial notice of the fact that Colorado is a place to which consumptives resort. But the court thinks it unnecessary to decide that question, as it says that it was wholly immaterial. The only purpose for which the defendant could argue

that the insured was in Colorado in the winter of 1901 and 1902, and that Colorado is a resort for consumptives, would be to show that the insured had consumption at that time. Without saying more respecting the soundness of such an argument, based solely on the single fact that the brother of the insured, during that winter, received a letter from the insured mailed in Colorado, the court holds that fact had no tendency to prove that the insured had consumption, or that he resided in Colorado. That evidence was as consistent with the theory that it was mailed while passing through Colorado as it was with the theory that the insured was residing there at the time it was mailed. Besides, this court would hesitate to hold, if the evidence did in fact have a tendency to prove that the insured had gone to Colorado to reside temporarily or permanently, that it was evidence that he then had consumption.

As to what constitutes illness, within a question relative thereto, the jury was instructed: "A mere temporary indisposition, not serious in its nature, is not an illness within the meaning of this inquiry. 'Illness' as here used means a disease or ailment of such a character as to affect the general soundness and healthfulness of the system seriously, and not a mere temporary indisposition which does not tend to undermine and weaken the constitution. So that if there was an illness within the meaning of this term in this question, it must have been of the character I have indicated to you. And any illness, either under this question or under the consumption question, must be one that has become seated in the person so as to have begun its work of destruction to the health and constitution of the applicant." The court finds no error in this definition.

To show that the insured answered falsely the question, "Have you consulted any other physician?" when he answered "No," the defendant produced a physician who testified in substance, that he first saw the insured June 5, 1901; that at that time he was an examining physician for the defendant; that the insured came to him to be examined, and that, on that occasion, he did examine him superficially; that the insured said to him that he came for that examination because he had been told that he had trouble with his lungs, and he wanted another examination. No charge was made for the examination, nor did the physician advise him to do anything, until shortly before his death, long after the insurance was taken out. The physician distinctly stated that he was not consulted by the insured before the claimed answer, and that he did nothing but examine him. Merely calling into the office of a physician for some medicine to relieve a temporary indisposition, or simply for an examination to ascertain if there is any ailment or complaint about the person, and for nothing more, is not a consultation by a physician. The answer of the insured, that he had not consulted any other physician, the court holds, was not shown by this witness to be false.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

January 19.

1 *Diagnosis and Surgical Treatment of Gastric and Duodenal Ulcer and Their Complications. A. A. Berg, New York.
2 *"Rheumatism" and Its Treatment. F. J. Walter, Kramer, Ind.
3 Prognosis in the Consumptive. J. M. Bleyer, New York.
4 *Medicolegal Study of a Morphomaniac. T. D. Crothers, Hartford, Conn.
5 *Public Control of Disease Through a National Department of Health. H. W. Wright, Astoria, Long Island.

1. **Gastric and Duodenal Ulcer.**—From his experience Berg believes that operation is not advisable when the patient's general condition is bad, the hemoglobin very low, 19 to 20 per cent., and the pulse not very rapid. In such a condition even a slight operative shock, whether or not it is combined with the influence of a general anesthetic, is sufficient to cause the death of a patient. In such cases internal remedies and complete rest, induced by morphin, to check the bleeding, are far preferable. When the patient's general condition is good, however, immediate operation is strongly indicated.

2. **Rheumatism and Its Treatment.**—Walter claims that the various infections will account for every form of so-called rheumatism except muscular, and that is an intoxication, which accompanies or precedes most articular, and some nerve infections. Intelligent treatment consists of prophylaxis, a better understanding between patient and physician, with attention to social conditions, dietetics, exercise or rest, as indicated, elimination by proper baths, fresh air, the right co-operative mental attitude, and in some cases climate. An examination of the urine is important in every case. Heredity has no effect, except as establishing social conditions followed by the family. A sedentary life, and also great muscular fatigue, should be avoided, the latter being a cause of muscle pains in children and workingmen. Alkaline waters and drugs, although greatly abused, are very important, he states, as antacids to the intestines.

4. **Medicolegal Study of a Morphomaniac.**—Crothers reviews the history of Dr. J. B. Matthews of Greensboro, who was indicted for the murder of his wife, December, 1905.

5. **National Department of Health.**—Wright suggests that there be established a national bureau of health, having subordinate bureaus in every community of about 10,000 inhabitants. At the head of these bureaus there should be physicians who have proved their ability to deal with public health problems and who give their best efforts to the prevention of disease. With proper regulations every case of illness would be reported to the local health bureau. Wright says that if matters were so arranged that all physicians would work together for the good of humanity and not for a fee, the competition and lack of coöperation now existing would be abolished.

New York Medical Journal.

January 19.

6 *Immediate and Remote Consequences of Cranial Injuries. H. Cushing, Baltimore.
7 *A Neurologic Critique of Recent Surgical Treatment of Cerebral Birth Palsies. C. E. Atwood, New York.
8 *Endothelioma of Ovary. H. A. Bernstein, New York.
9 Urinary Analysis of Operative Cases and Treatment of Complications Arising from Kidney Insufficiency. S. E. Tracy, Philadelphia.
10 Clinical Value of Differential Blood Count in Operative Otology. J. F. McKernon.
11 The American Girl vs. Higher Education, Considered from Medical Point of View. R. W. Parsons, Ossining, N. Y.
12 *Gastroptosis a Causative Factor of Tachycardia. H. Weinstein, New York.
13 *Trauma of the Abdomen, with Report of Case of Rupture of Liver. A. E. Sellenings, New York.
14 Ocular Complications of Mumps. J. H. Woodward, New York.

6. **Injuries to Cranium.**—In the first installment of his article Cushing reports the history of one case very fully, leaving the remainder of the cases to be recorded later. The patient sustained a meridianal fracture of the skull which caused a rupture of the meningeal artery to take place, with extradural hemorrhage and compression without preceding concussion. Recovery took place after a misdirected operation, but was followed by aphasia and pulsating exophthalmos. An exploratory craniotomy was done by Cushing, and he removed the clot, inserting an iodoform gauze pack in the cavity. After this operative intervention there was a continuance of local compression paralysis simulating those of original hemorrhage, aphasia, but all the intracranial symptoms subsided rapidly on removal of the pack. The patient returned after three years with pulsating exophthalmos from arteriovenous aneurism. He was free from the usual post-traumatic symptoms of uncomplicated cases.

7. **Surgical Treatment of Cerebral Birth Palsies.**—In summing up his article, Atwood says that it seems reasonable to say that immediate surgical intervention in intracranial hemorrhages of the newborn is justifiable in properly selected cases, as offering hope where no immediate hope seems otherwise to exist, and also from the standpoint of mitigating distressing sequelæ. Further, as diagnosis becomes more and more accurate, with experience and careful observation, it may be that meningeal hemorrhage will be more frequently discovered than at present, and we will thus be able to operate early and to obviate with certainty the secondary effects on the cortex

arising from pressure. Early operation is found to be well borne. The blood is found coagulated as in similar conditions in the adult, and even when the hemorrhage was basilar a decompression operation, he states, was useful. After all such operations it is advisable to assist the brain in its compensation and re-education of centers by a careful and thorough physical and mental training of the child. On the whole, however, prognosis must be tentative, on account of the participation of the brain cortex in a possibly destructive process from the trauma and asphyxiation.

8. **Endothelioma of Ovary.**—Bernstein records the case of a girl, aged 17, with a negative personal and family history, from whom he removed an endothelioma of the ovary. The symptoms began seven months previous to the time of operation and consisted mainly of pain in the abdomen and an enlargement over the right ovary. The interior of the tumor was white, irregularly lamellated and rather soft in consistency. A number of openings made in the tumor for the purpose of evacuating its supposed fluid contents failed to confirm the diagnosis of cyst or cysts. Microscopically the tumor consisted chiefly of fibrous tissue intermingled with muscle cells. No particular changes were noted in the blood vessels, but the lymph spaces were dilated and contained strands of cells that had no connection with the lymph channel.

12. **Gastroptosis a Cause of Tachycardia.**—In support of his claim that gastroptosis may be a cause of uncomplicated cases of tachycardia, Weinstein reports one case.

13. **Trauma of Abdomen.**—Sellenings summarizes his paper as follows: 1. Diagnosis of traumatic lesions of the abdomen is most difficult. 2. Signs and symptoms are variable in their exhibition and admit of no classification. 3. When there is an element of doubt in diagnosis laparotomy is indicated. 4. History and nature of injury may be the only indications for operation. 5. Early laparotomy will improve the percentage of recoveries. 6. Laparotomy as a means of diagnosis is without danger. 7. Tamponade is the best treatment for hemorrhage in ruptures of the liver.

Boston Medical and Surgical Journal.

January 17.

15 *The Medical Knowledge of Shakespeare. A. C. Getchell, Worcester, Mass.
16 *Aneurism of the Aorta. J. N. Hall, R. Levy and G. H. Stover.
17 *Pelvic Abscess Treated by Vaginal Section. E. B. Young, Boston.
18 *New Operation for Correction of the Nasal Septum. R. A. Coffin.

15. **Medical Knowledge of Shakespeare.**—Getchell brings together in groups passages from Shakespeare's plays and poems, to show his knowledge of medical matters.

16. **Aneurism of the Aorta.**—The authors report 4 cases of aneurism of the transverse portion of the aorta, which were under observation at one time.

17. **Pelvic Abscess Treated by Vaginal Section.**—An analysis of 21 cases of vaginal section for pelvic abscess made by Young shows that this operation gives what appear to be good results. One patient died, not as the result of the operation itself, but because of an effort to correct the consequences of an operation on a metastatic abscess. Two other unfavorable results are reported. One patient was finally cured of pain by removal of one tube and ovary; the other still has some pain and exudate, owing principally to lack of care. Thirteen patients are free from pain and four others claim to be well. The remainder have some pain at times, but the discomfort is apparently slight, even if some exudate, thickening or tubo-ovarian masses remain.

18. **New Operation for Correction of the Nasal Septum.**—Coffin's operation is divided into two short sittings. It is not suggested that this operation take the place of other window operations, but rather it is one to be used when the conditions are unfavorable for prolonged surgical procedures. In the case in which this operation was first employed, the cartilaginous septum was in contact with the lower left turbinate. Only a small piece of the bony septum was involved.

A more or less perpendicular incision was made in the right nostril anterior to the deviation, after first applying cocain and adrenalin, and sterilizing the cavity with a weak solution of corrosive sublimate. The posterior elevator was then introduced through the incision beneath the periosteum and perichondrium and worked backward, upward and downward, until these structures were free from the septum as far as the edges of the deviation. The space thus made was injected with sterilized vaselin and the nose allowed to heal for one week. After one week the opposite side was prepared for operation in the same way as the first and an incision similar to the one on the right side, only somewhat more anterior, was made. The last incision was made more anterior in order that it would not come opposite the other and increase the liability to perforation in case the first was not entirely healed. In the same way as before, the perichondrium and mucous membrane were separated from the septum. The submucous spur was removed by the use of a straight, blunt knife and the author's submucous gouge. A light pledget of antiseptic cotton was then introduced into the left nostril and drawn forward in order to hold the perichondrium and mucous membrane in the median line.

When the deviation is long and narrow Coffin has obtained excellent results by treating the second part of the operation as a simple spur, removing it with a saw. This not only saves time, but the result, in most cases, is quite as satisfactory. It is his opinion that in doing this operation one is more likely to obtain true cartilage in the new septum than in the usual window operation, for the reason that both cartilage cells and perichondrium are present during the time intervening between the first and second operations.

Lancet-Clinic, Cincinnati.

January 19.

19 *Mental Symptoms Due to Disease of Nasal Accessory Sinuses. J. A. Stucky, Lexington, Ky.
20 Heredity. G. B. Jenkins, Louisville, Ky.
21 Rachialgia. M. W. Lang, Ridgeville, Ohio.

19.—See abstract in THE JOURNAL, Nov. 24, 1906, page 1760.

St. Louis Medical Review.

January 12.

22 Medical St. Louis. President's address, St. Louis Medical Society. J. C. Morfit, St. Louis.
23 Pathologic and Clinical Diagnosis of Sarcoma. M. G. Seelig, St. Louis.

Journal Experimental Medicine, New York.

December.

24 *Study of Opsonins. C. E. Simon, Lamar, R. V., and W. N. Bispham.
25 Influenza Bacillus in Inflammations of the Respiratory Tract in Infants. M. Wollstein.
26 *Effects of Intraspinal Injection of Magnesium Salts on Tetanus. S. J. Meltzer and J. Auer.
27 *Specific Immunity Principles in the Blood of Vaccinated Calves. J. W. Jobling.
28 *Experimental Research into the Resuscitation of Dogs Killed by Anesthetics and Asphyxia. G. Crile and D. H. Dolley.
29 Thermostabile Anticomplementary Constituents of Blood. H. Noguchi.

24. **Study of Opsonins.**—The authors do not find that Wright's method of determination of the average number of organisms per leucocyte gives an adequate idea of the quantity of opsonins present. They conceive that the use of concentrated serum may show what would appear to be a perfectly normal and sufficient quantity of opsonins for a given number of organisms, which amount, however, might be altogether inadequate for a larger number. They, therefore, dilute the serum with 1.2 per cent. salt solution, which rapidly exhausts the phagocytic power and shows this inadequacy. On account of their difficulty in estimating accurately the number of organisms in a given cell, they determine the number of phagocyting cells.

With human blood they prepared a 1 to 20, a 1 to 30 and a 1 to 40 dilution, while with the blood of animals a 1 to 10 and a 1 to 20 specimen was made. These preparations are now inoculated with a small number of the organisms taken from an agar culture. If the organism does not readily yield an emulsion in this way, an emulsion must be separately prepared in normal salt solution. Each tube receives a constant volume of corpuscles which equals one-half that of the diluted serum. The authors found opsonins in all the large classes of vertebrates, the amount varying in the various animals. It seemed to be lower as we descend in the scale of animal life. They

also observed the opsonic content of the blood to vary in man and that human blood contained more opsonin than that of the lower animals. They show that by their method of obtaining the opsonic content there are greater fluctuations than when Wright's method is employed. They found in some individuals a marked influence of digestion on the opsonic content of the blood. They were unable to demonstrate opsonin in striated muscle tissue, liver, spleen, lymph glands, kidneys, intestinal mucous membrane, muscular coats, adrenal glands, brain, pancreas, testicles, ovaries, cerebrospinal fluid, seminal fluid and milk. They found its presence in exudates to be variable. The examination of bone marrow was unsatisfactory. Exudates were found to contain opsonins. Their results tend to show that opsonins are essentially components of the blood; but Lamar and Bispham do not believe that they are formed there. They found no constant parallelism existing between the number of leucocytes and the amount of opsonins.

From their experiments they conclude that opsonins are not dialysable. They consider them to be intimately associated with the globulins. They show that opsonins can be in part or entirely removed from the blood serum by various substances in a manner analogous to the various ferments. They believe that specificity of opsonins does not exist. Their experiments suggest the possibility that the opsonins may be a constant quantity and that the number of organisms which is taken up by a cell is influenced by a second factor which may be variable.

25. **Influenza Bacilli in Respiratory Diseases.**—Wollstein did not find the influenza bacillus in throats of healthy children nor in the throats of children in whom lesions of the respiratory tract did not exist. When the bacilli occurred in the throat the clinical course of the disease which they complicated was apparently influenced by them. This was especially true of pulmonary tuberculosis, which ran a more severe course when complicated by an influenza bacillus infection. The author considers that the term pseudo-influenza should be discarded on account of the similarity of cultural characteristics of all the influenza bacilli and of the agglutination reactions.

26. **Magnesium Salts and Tetanus.**—Meltzer and Auer studied the effects of intraspinal injection of magnesium salts on tetanus in 8 monkeys and 3 human subjects. A 25 per cent. solution was used. The monkeys received from 0.06 to 0.07 grams, and the patients 0.02 grams of magnesium sulphate per kilo of body weight. All the monkeys died, but those treated lived from 24 to 48 hours longer than the controls. One patient recovered. The authors conclude as follows: Intraspinal injections of magnesium sulphate, in doses which do not affect the respiratory center or other vital function, are capable of abolishing completely all clonic convulsions and tonic contractions in cases of human tetanus, and experimental tetanus in monkeys. The relaxing effects of the injections may last 24 hours or longer. In experimental tetanus in monkeys early intraspinal injections of magnesium salts are capable of retarding the progress and development of the tetanic symptoms. These investigators believe that the therapeutic value of the injections lies in the possibility, by abolishing completely all tonic and clonic muscular contractions, of tiding over the animal until the newly formed antitoxin can overtake the balance of free toxin, and the metabolic processes of the body have mastered the toxins fixed by the nerve cells.

27. **Immunity and Vaccination.**—Jobling believes that he has demonstrated the occurence of an immunity principle in the blood of vaccinated calves by means of the method of duration of complement by antigen antibody devised by Bordet and Gengou and Nioreschi, and extended to tuberculosis, syphilis and meningitis by Wassermann and others. Jobling is now studying smallpox with the same method.

28. **Resuscitation After Asphyxiation.**—Crile and Dolley report the results of 60 experiments on the resuscitation of dogs killed by anesthetics and asphyxia. A cannula was inserted into an artery (preferably the carotid) directed toward the heart. At varying intervals after death saline or, preferably, Ringer's solution was allowed to flow for perhaps ten seconds; then a hypodermic injection of from 1 to 2 c.c. of a 1 to 1,000 solution of adrenalin was given into the rubber tube attached to the cannula. Introducing the adrenalin solution into the arterial system, they found, was the most direct and effective way of producing an increase of pressure in the coronary arteries on which Solmann showed the inauguration of the beat was more dependent than on the quality of the fluid producing such pressure. A few seconds after the injection the blood pressure began to rise steadily. A few firm pressures on the thorax over the heart were followed, at the end of three-quarters of a minute, by vigorous heart action. Spontaneous respiration followed in a few minutes.

Animals after death from chloroform, ether or asphyxia, up to five minutes were uniformly and readily resuscitated by the above method; the proportion of successes diminished with the lapse of time; adult dogs could not be resuscitated after twenty-three minutes, nor puppies after thirty-five minutes. After death from chloroform and ether animals were more readily resuscitated than after death from asphyxia. Resuscitation, if successful, usually occurred within one minute after the administration of adrenalin. The following are some of the difficulties encountered: Antemortem clotting, the probability of the occurrence of which increased with the lapse of time after death and with cardiac trauma from massage; overdistension of the heart, failure of the heart, circulation and respiration; the apparently imperfect recovery of the brain power.

American Medicine, Philadelphia, Pa.

December.

30 *Intravenous Injections; A Therapy of the Future. B. Hahn, Seattle, Washington.
31 Senility. A. L. Benedict, Buffalo, N. Y.
32 Disadvantages of the Upright Position. A. G. Pohlman, Bloomington, Ind.
33 *Comparative Danger of Scopolamin-Morphin Anesthesia. H. C. Wood, Jr., Philadelphia.
34 *Danger of Traumatism to the Uterus During Dilation. C. A. Stewart, Duluth, Minn.
35 An Unusual Anomaly of the Palmaris Longus Muscle. H. E. Radasch, Philadelphia.

30. **Intravenous Injection.**—Hahn discusses the value of intravenous injections as a means of administering remedial agents very fully. He believes that especially fitted for intravenous treatment are dyscrasic and dystrophic affections, disorders of metabolism, blood diseases, septic infections, cardiac insufficiency and syphilis. Concluding, he says that the oral administration of drugs will always remain the standard procedure for every day.

33. **Danger of Scopolamin-Morphin Anesthesia.**—Wood selected from the literature 1,988 cases of scopolamin-morphin anesthesia. In every instance he consulted the original authorities (except one). In this series there were 23 deaths, of which, after careful reading of the descriptions of the symptoms and the author's own conclusions, Wood thinks it justifiable to attribute the death to the anesthetic in 9 instances. The mortality in this method reaches, therefore, one death in 221 anesthesias, as against one death in 1,500 from ether. The anesthesia was unsatisfactory in at least 868 cases, and ether or chloroform was administered during the operation. A considerable experience with both ether alone and morphin-ether anesthesia in dogs has convinced Wood that although far more convenient, the preceding use of morphin rather increases than diminishes the likelihood of anesthetic accidents. He says that there is no evidence as to the special indications for the preference of this method over ether, and that certainly it is not in cases of advanced renal disease, for every clinician will hesitate seriously before giving one-half of a grain of opium to a nephritic. In view of the facts that the combination of hyoscin and morphin for the production of surgical anesthesia is scientifically irrational, and has yielded a mortality of over 4 per 1,000, and that in 69 per cent. of the cases the anesthesia was unsatisfactory, Wood concludes that it must be either a very bold or a very ignorant surgeon who will persist in its use.

34. **Traumatism to Uterus During Dilatation.**—Three cases are reported by Stewart in support of his contention that many of the instances that have been noted as perforation of the uterine wall by the curette, when its use had been preceded by the dilator, were due to the latter instrument, the damage remaining undiscovered until its existence was revealed by the curette.

36. **Pericarditis.**—Hamilton analyzes 36 cases of pericarditis, 10 of which occurred as a terminal complication of nephritis, 3 occurred together with acute pneumonia or pleurisy, 20 occurred secondary to acute rheumatism, endocarditis, chorea or tonsillitis, and one case each with pulmonary tuberculosis, puerperal sepsis and cerebrospinal meningitis. There was no record of pain in 13 cases. In 16 cases the pain was felt in greatest intensity over the left precordium and beneath the sternum; in 2 cases in the left shoulder, and in 3 cases in the epigastrium. Dysphagia was marked in 4 cases and it was an early sign, observed even before definite signs of fluid were detected. Hamilton found as the result of his analysis that the young rheumatic subject is very susceptible to pericarditis; that tuberculosis is a comparatively rare cause of pericarditis; that pericarditis with lobar pneumonia is comparatively rare; that Rotch's dull angle or the cardio-hepatic angle is doubtless found dull with pericardial effusion, but it is found with marked dilatation of the heart as well, and hence loses its value as a diagnostic point between these two conditions; that dulness in the left second interspace may also be found with cardiac dilatation.

Montreal Medical Journal.
January.

36 Pericarditis. W. F. Hamilton, Montreal.
37 So-Called Infantile Paralyses. A. M. Forbes, Montreal.
38 Two Cases of Cesarean Section. A. L. Smith, Montreal.
39 Two Cases of Perforated Ulcer of Duodenum. C. A. Peters, Montreal.

Iowa Medical Journal, Des Moines.
January.

40 *Deformities of the Spine. J. W. Cokenower, Des Moines.
41 Country Surgeons. B. N. Torrey, Creston.
42 *Two Appendices Instead of One. L. Schooler, Des Moines.

40. **Deformities of the Spine.**—Cokenower summarizes his paper as follows: 1. The statistics and histories of all cases of deformities of the spine, even in children, shortens longevity, and especially so with extreme scoliosis when the average age does not exceed 30. 2. All deformities of the spine can be relieved if treatment is begun early or so soon as any deformity exists, and those without bone deviations are simple and amenable to successful correction, and those with osseous change, even in children, can be improved, but not so in adolescence and adults. 3. The law of growth and development of osseous as well as soft tissue, is fully demonstrated in the abnormalities, distortions, deformities and actual and permanent normal functional disturbances when the equilibrium of the normal axis of the body has been destroyed, no matter whether it be the result of torticollis, knock knee, bow-legs, club-foot, short leg, or any other cause, the results are the same according to severity. 4. The medicinal and mechanical treatment should be augmented with hygiene, gymnastics and all other properly guarded means that will develop the body, give tone and power to the muscles, increase vital functions and materially improve the general health.

42. **Two Appendices instead of One.**—Schooler reports a case of appendicitis in which he found two appendices instead of one. When the abdomen was opened there escaped a quantity of pus and the intestines presented with a normal appendix in front. This was clamped near the base and was found to be attached to the free base of the colon. On introducing the finger, he found another appendix about one inch below the base of the first, greatly swollen and perforated near the middle. The distal extremity was gangrenous. The diseased appendix was ligated and removed. The bowels were found completely obstructed by the exudate. The obstructed portions were released and attention given to the normal appendix. This was removed in the usual way. After removal it was carefully examined and measured four inches in length. It was normal in every respect except possibly that it may have been slightly smaller in its diameter than its fellow. On account of the swollen condition of the perforated one this could not be determined.

Journal of the Kansas Medical Society, Lawrence.
January.

43 Ectopic Gestation. G. M. Gray, Kansas City.
44 *Present Status of Exophthalmic Goiter. F. A. Carmichael, Goodland.
45 *Bilateral Cervical Sympathectomy in Exophthalmic Goiter. R. H. Meade, Great Bend, Kans.
46 Infected Wounds. S. Steelsmith, Abilene.
47 Subinvolution as an Etiologic Factor in Diseases of Women. F. A. Harper, Pittsburg.
48 Tuberculosis, Its Prevention and Restriction. A. A. Dickinson, Pittsburg.

44. **Exophthalmic Goiter.**—Carmichael says that of the various methods employed from time to time in the surgical treatment of exophthalmic goiter, thyroidectomy has proved the most universally satisfactory, the choice being between this and sympathectomy. The operation of ligation of the thyroid arteries and exothyropexy have alike proven unsurgical and unsatisfactory.

45. **Bilateral Cervical Sympathectomy in Exophthalmic Goiter.**—In a typical case of exophthalmic goiter reported by Meade, bilateral extirpation of all the cervical ganglia was done at one sitting. Two hours after the operation the lagophthalmos had entirely disappeared, and the patient's eyelids completely covered the eyeball for the first time in several years. Twenty-four hours after the operation the patient had slept well and the pulse had not been over 96. The tremor was much less marked and the von Graefe and Stelwag's signs had entirely disappeared. About four months after the operation the goiter was not noticeable, the pulse never was over 94, but there was still a slight degree of exophthalmos.

Buffalo Medical Journal.
January.

49 Expert Medical Testimony. D. M. Totman, Syracuse, N. Y.
50 Medical Profession and the Simplified Spelling. B. G. Wilder, Ithaca.
51 *Extensive Gangrene Following Contact with a Live Wire. N. Jacobson, Syracuse.
52 Plea for Education in Venereal Prophylaxis. J. A. Gardner, Buffalo.
52½ Air We Breathe. D. C. Greene, Buffalo.

51. **Extensive Gangrene of Arm.**—Jacobson's patient, a boy 12 years of age, while sliding down a roof, grasped a large electric wire in order to save himself from falling to the ground. The wire carried 6,600 volts and had an amperage of 90. It is assumed that as the boy seized one wire with his hand his foot came in contact with the companion wire. Fifteen days after the injury the moist gangrene of the arm and leg had extended so far that it became necessary to remove the arm close to the shoulder and the leg above the middle third. The boy's recovery was slow but complete. The curious features about the case are that the boy was not killed outright by a current of four times as many volts and from fifteen to forty-five times as many amperes of electricity as are used in judicial executions, and that the force of the current was expended on the extremities of one side of the body only, the left arm and leg. Jacobson does not regard this as an electric burn, but concludes that in some way the arterial blood supply was immediately cut off, either because the arteries contracted through vasomotor stimulation or the blood in the vessels at once coagulated.

Ohio State Medical Journal.
January 15.

53 Therapeutic Exercises in Lateral Curvature. H. O. Feiss, Cleveland, Ohio.
54 Shall Ohio Have an Up-to-Date System of Registering Vital Statistics. C. L. Wilbur, Washington, D. C.
55 *Penetrating Wounds of Thorax. E. O. Smith, Cincinnati.
56 *Chronic Headaches. J. A. Thompson, Cincinnati.
57 The Bronchoscope and Esophagoscope as Aids to Laryngologist and Surgeon. S. H. Large, Cleveland.
58 *Malt Soup in Infant Feeding. J. J. Thomas, Cleveland.

55. **Wounds of Thorax.**—Smith emphasizes the fact that while a great many of the penetrating wounds of the thorax require no operative interference, there are some that do, and lives can be saved by the judicial selection of cases. No patient should be allowed to bleed to death from a lung injury without the possibility of recovery that surgical intervention might offer.

56. **Chronic Headaches.**—Thompson says that in any cases of chronic headaches in which ordinary treatment fails a careful examination of the nose for growths or minor lesions is necessary. Frequently the cure of diseased conditions in the nose will relieve the patient of his headache, as in several cases described by Thompson.

58. **Malt Soup in Infant Feeding.**—Thomas has found that not infrequently, even after all other methods prove fruitless,

malt soup will, in a surprisingly short time, bring about a return to normal, with rapid increase in weight. This food must not, however, be continued too long in certain cases because scurvy will result. He says that the particular indications for the use of malt soup are found in infantile atrophy or marasmus, and in the dietetic treatment of ileo-colitis. The malt soup is prepared as follows: Two ounces of wheat flour are gradually added to 11 ounces of milk, with constant stirring. In a second vessel three ounces of a thick malt extract, to which is added two and one-half drams of an 11 per cent. potassium carbonate solution, are dissolved in twenty ounces of water at a temperature of 120° F. Finally, the first and second mixtures are mixed and boiled for three or four minutes. This gives a food containing 1.2 per cent. fat, 2 per cent. albumin, and 12.1 per cent. of carbohydrates in the form of easily absorbable maltose.

Fort Wayne Medical Journal-Magazine.

December.

59 Diphtheria Antitoxin and Its Uses. H. O. Brueggeman, Fort Wayne.
60 Localization of Brain Disease. G. W. McCaskey, Fort Wayne.

Mississippi Medical Monthly, Vicksburg.

December.

61 Aneurism of the Thoracic Aorta. P. W. Toombs, Greenville.
62 The Financial Side. J. J. Ferguson, Greenville.
63 Croupous Pneumonia. T. F. Wickliff, Wayside.
64 Gastroenteritis or Summer Complaint in Children. L. D. Dickerson, McComb.

January.

65 Address of Dr. B. F. Duke at Jackson County Medical Society, Oct. 3, 1906.
66 Calomel. L. D. Harrison, Clarksdale.
67 Pneumonia. F. M. Dooley, Duncan.

Journal Missouri State Medical Association, St. Louis.

December.

68 Missouri Sanatorium for Treatment of Incipient Tuberculosis and Its Legal Foundation. W. M. Bayliss, Mt. Vernon, Mo.
69 The White Plague. H. Jerard, Pleasant Hill, Mo..
70 Limitation of Surgical Procedures in Cancer. G. W. Broome, St. Louis.
71 Syphilis of the Nervous System. C. J. Morrow, Kansas City, Mo.
72 Appendicitis. C. G. Grieger, St. Joseph.
73 Some Less Frequent Complications of Fibroids of the Uterus. E. Jonas, St. Louis.
74 Multiple Fibromyomata of Uterus with Cystic Ovaries, Removal, etc. R. M. Funkhouser, St. Louis.

Texas State Journal of Medicine, Fort Worth.

December.

75 Congenital Cysts of the Neck. J. E. Thompson, Galveston.
76 Modern Diagnostic Methods in Cancer of the Stomach. J. W. McLaughlin, Austin.
77 Relation of the Railway Surgeon to the Company and the Employé. C. A. Gray, Bonham.
78 Tuberculosis Problem in Texas. F. Paschal, San Antonio.
79 Duties of the Local Surgeon, 1, to the Injured Party; 2, to the Railroad Company, and 3, to the Public. F. L. Barnes, Trinity, Texas.
80 Treatment of Infants. C. M. Alexander, Coleman.
81 Empyema of Maxillary Antrum in Young Infants. J. H. Foster, New York City.
82 Use of Chloroform, Ether and Scopolamin. N. Klein, Texarkana.

University of Pennsylvania Medical Bulletin, Philadelphia.

December.

83 Sanitation in the Japanese Navy and Army. B. K. Takaki, I. J. Navy.
84 Empyema in Children. J. H. Jopson, Philadelphia.
85 Structure of the Spirochæta Pallida (Schaudinn). H. Fox, Philadelphia.

Brooklyn Medical Journal.

December.

86 Treatment of Certain Chronic Infectious Processes. L. F. Barker, Baltimore.
87 Diagnosis in Head Injuries. C. F. Barber, Brooklyn.
88 Principles of Mechanical Support. C. D. Napier, Brooklyn.
89 Treatment of Chronic Valvular Disease in Children. E. E. Cornwall, Brooklyn.
90 Pyrexia and Subnormal Temperatures in Infancy and Childhood. W. A. Northridge, Brooklyn.

Indiana Medical Journal, Indianapolis.

December.

91 Union of Medical Colleges with Purdue University. W. E. Stone, Indianapolis.
92 Floating Kidney: Its Significance and Treatment. H. D. Beyea, Philadelphia.
93 Case of Cesarean Section. W. Schell, Terre Haute.

Woman's Medical Journal, Toledo.

December.

94 Immaterial Remedies and Their Use in the Regular Practice of Medicine. G. A. Sherman, National, Iowa.

American Journal of Urology, New York.

December.

95 Water and Air as Distending Media in Cystoscopy; New Examining and Catheterizing Cystoscope. B. Lewis, St. Louis.
96 Indications for Cystoscopy as a Means of Diagnosis. C. S. Stern, Hartford.
97 Case of Foreign Body and Vaginal Calculus. W. H. Battle, London.
98 Operative Cure for Hitherto Unrelieved Class of Cystites. E. Fuller, New York City.
99 Operative Treatment of Gonorrhea in the Male. A. C. Stokes, Omaha.
100 Balsamic Treatment of Gonorrhea. L. Lilienthal, Berlin, Germany.

Virginia Medical Semi-Monthly, Richmond.

December 7.

101 Home and Office Treatment of Inebriety. T. D. Crothers, Hartford, Conn.
102 Anesthesia in Obstetrics. D. J. Coleman, Richmond.
103 Present Methods of Determining Renal Incompetency, and Surgical Treatment of this Condition. G. P. Laroque, Richmond.
104 Practice of Medicine as a Life Avocation. R. T. Styll, Newport News, Va.
105 Case of Infant Menstruating from Date of Birth. W. H. Ribble, Jr., Wythville, Va.

Journal of the Outdoor Life, Trudeau, N. Y.

January.

106 Fake Remedies and the Harm They Do. Chloroform and Prussic Acid Combined in One Cure. S. A. Knopf, New York.
107 Three Leading Institutions as Seen Through American Eyes. V. Y. Bowditch, Boston.

Bulletin of Johns Hopkins Hospital, Baltimore.

January.

108 Medicine in Shakespeare. A. W. Meyer, Baltimore.
109 Various Types of Carcinoma of Cervix of Uterus. J. A. Sampson, Albany, N. Y.
110 Surgery of Blood Vessels, Etc. A. Carrel.
111 Blood of Normal Young Adults. C. P. Emerson, Baltimore.

Albany Medical Annals.

December.

112 President's Address Before Albany Medical College Alumni Association. A. E. Abrams, Hartford, Conn.
113 Hyperemia in Treatment of Acute Infections. A. W. Elting, Albany, N. Y.
114 Cases Treated by a Modified Bier-Klapp Method of Passive Hyperemia. J. N. Vander Veer, Albany.

Journal of Cutaneous Diseases, New York.

January.

115 White Spot Disease (Morphea Guttata), and Lichen Planus Sclerosus et Atrophicus. F. H. Montgomery and O. S. Ormsby, Chicago.
116 Case of Pemphigus Vegetans. J. M. Winfield, New York.
117 Multiple Cancer of the Skin and Keratosis. J. F. Schamberg, Philadelphia.

Louisville Monthly Journal of Medicine and Surgery.

January.

118 Iodin in Surgery. O. E. Bloch, Louisville.
119 Surgical Treatment of Trifacial Neuralgia. A. Schachner, Louisville.
120 Rupture of Kidney Without External Wound and Its Surgical Treatment. A. H. Barkley, Lexington.
121 Appendicitis; Ovarian Abscess. L. Frank, Louisville.
122 Tuberculosis of the Kidney, Diagnosis and Treatment. D. S. Wilson, Louisville.

Yale Medical Journal, New Haven, Conn.

January.

123 Early Diagnosis and Prevention of Arteriosclerosis. O. T. Osborne, New Haven.
124 Prophylaxis and Treatment of Diphtheria with Antitoxin. A. Marcy, Jr., Riverton, N. J.
125 Shiga Bacillus in Dysentery. D. M. Lewis, New Haven, Conn.

Journal of the Medical Society of New Jersey, Orange.

January.

126 The Omentum and Its Functions. G. K. Dickinson, Jersey City.
127 Etiology of Appendicitis. T. H. Mackenzie, Trenton.
128 Diagnosis of Appendicitis. E. W. Hedges, Plainfield.
129 Complications and Sequelæ of Appendicitis. P. M. Mecray, Camden.
130 Treatment of Appendicitis. F. D. Gray, Jersey City.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal.

January 5.

1 *Treatment of Recent Fractures. W. W. Cheyne.
2 *Functional Albuminuria in Athletes. W. Collier.
3 *Age Incidence of Gastric Ulcer in the Male and Female. W. Calwell.
4 *Preliminary Laryngotomy. J. W. Bond.
5 *Preliminary Laryngotomy. H. T. Butlin.

5½ **Frequency of Cataract in Bottle Makers.** S. Snell.
6 Achondroplasia. G. Rankin, E. C. Mackay, J. R. Lunn, and J. Cranke.
7 Achondroplasia. J. H. Porter.
8 *Taxis for Hernia, and Complications that May Arise During and After Its Employment. H. B. Robinson.
9 Fracture of the Fifth Metatarsal Bone. G. H. Graham.

1. **Treatment of Recent Fractures.**—In this paper Cheyne discusses the disabilities that occur after fracture, such as non-union; the accurate replacement of the fractured ends at the time of the injury; the chief obstacles of reduction; the difficulties in retaining fractures in position; methods of reduction and operations on recent fractures. As to massage, he says, that the sooner movements and massage can be begun the quicker will the function of the limb be restored so long as no displacement of the bones occurs during the manipulations. He believes that the fractured ends ought to be left quite still for eight or ten days after the injury, except in the case of fractures of the forearm, where the fingers can be left out and moved from the first. He does not approve of treating fractures without any splints, or of looking on massage as a panacea of primary importance and reduction and retention as of minor value.

2. **Functional Albuminuria.**—Collier believes that men between 18 and 30 whose urine is found to contain albumin after exercise, when it can be shown that no albumin is present after rest or after a meal, ought not to be rejected by life-insurance companies.

3. **Age Incidence of Gastric Ulcer in Sexes.**—Calwell associates chlorosis and gastric ulcer in determining the age incidence of this condition. He found that ulcer is most prominent in the female during the age of adolescence which corresponds with the time of life when chlorosis also is most common. This disease, being absent in the male, gastric ulcer is correspondingly rare. After the age of from 25 to 30 the onset of ulcer was found to be about equal in both males and females.

4. **Preliminary Laryngotomy.**—For the past fifteen years Bond has performed laryngotomy with plugging of the air passages above as a preliminary to larger operations about the upper air passages with the intent: (1) To make such operations less dangerous to life; (2) to increase the number of cases in which operation could be performed owing to the diminished danger; (3) to help surgically in the operation by getting rid of the respiration through the pharynx during the time of operation, and of the hindrance caused by perpetual sponging and coughing; (4) to give the anesthetist a clear field for his work away from the site of operation, so that he may do his work uninterruptedly without taking turns about with the surgeon; (5) to lessen the time needed to perform certain operations attended by bleeding difficult to control; (6) to get rid of tracheotomy as a preliminary operation in all suitable cases, and so again to assist in making the operations in question more easy, quick and efficient in saving life.

5. **Cataract in Bottle Makers.**—As the result of extensive investigations into this subject, Snell concludes that there is not sufficient evidence to show that bottle makers are liable to cataract to such an extent as has been asserted.

8. **Taxis for Hernia.**—Robinson discusses the use of taxis in case of hernia when there are signs present of strangulation. In the congenital and the funicular forms of inguinal hernia, Robinson counsels early operation, even though the signs of strangulation may be of recent onset. Speaking generally, he says, inguinal and umbilical hernias should be operated on if strangulation has existed for three days and the symptoms have been mild. If the symptoms have been severe, taxis should not be resorted to after twenty-four hours. In the case of femoral hernia, delay is inadvisable after the end of twenty-four hours.

The Lancet, London.

January 5.

10 Removal of the Gall Bladder (Cholecystectomy). J. Bland-Sutton.
11 *The Liver in Cardiac Disease. R. N. Salaman.
12 Intraperitoneal Bleeding from Fibroid of Uterus, with Acute Distension of Abdomen. W. B. Clarke.
13 *Hyperplastic Tuberculous Pericolitis. F. S. Kidd.
14 Localization of Potassium in Malignant Tumors. R. Cattley.
15 Determination of Uric Acid. A. F. Dimmock and F. W. Branson.
16 *Bronchiectasis in Childhood. C. R. Box.
17 *Strontium Bromid in Epilepsy of the Insane. J. M. Bennison.
18 Outbreak of Typhoid Due to Eating Clams from a Polluted Source. J. F. Beale.
19 Absence of Uterus in Three Sisters and in Two Cousins. L. N. Boston.

11. **Liver in Cardiac Disease.**—While Salaman believes that the liver is a factor of the greatest importance in the formation and course of edema and ascites in cardiac disease, a study of 60 cases has convinced him that it is not the only factor. The following points are deducted: 1, Under conditions of cardiac stress the liver will draw off a large volume of blood from the right auricle; 2, after a time certain changes take place leading to fibrosis, which very materially affects the distensibility of the liver; 3, the fibrotic process, by increasing the force of the liver's recoil, prevents the use of the latter as a reservoir in which blood may accumulate; 4, in complete compensation there are no engorgement of the liver and no back pressure; and 5, while the liver may be looked on as a sponge-like safety valve to the heart, continued use of this safety-valve action leads to its own abolition.

13. **Hyperplastic Tuberculous Pericolitis.**—Kidd reports three cases illustrating a peculiar form of localized chronic hyperplastic inflammation in the submucous, muscular and subserous coats of the intestine which may lead to intestinal obstruction and its consequences. He believes that the condition is due to infection with an attenuated form of the tubercle bacillus. The condition may be mistaken for carcinoma or sarcoma, but with care such a mistake in diagnosis will not be made.

16. **Treatment of Bronchiectasis.**—According to Box, the routine procedure should consist in regularly emptying the cavities in the lung, so far as possible, and the administration of such drugs as are excreted by the lungs and presumably exert an antiseptic influence on the bronchial tubes and their contents. The best method of emptying the cavities is by the process of inversion. The best times to practice inversion are on rising in the morning and on retiring at night. An alternative method of getting rid of the secretions is by the use of emetics, preferably wine of ipecac. The drugs mentioned by Robinson as yielding the best results in practice are garlic, creosote, turpentine and cod-liver oil. Robinson prescribes one dram of the syrup of garlic [B. P. and N. F., but not U. S. P.—ED.] and one dram of cod-liver oil emulsion, three times a day, to a child of 4 or 5 years.

17. **Strontium Bromid in Epilepsy in Insane.**—Bennion finds that strontium bromid, as a rule, acts better in controlling the number and severity of the attacks than the mixed bromids of sodium and potassium. It rarely causes depression, it does not produce any rash, and the mental condition of the female patients appears to improve under its use.

Indian Medical Gazette, Calcutta.

December.

20 Development of Piroplasma Canis in the Tick. S. R. Christophers.
21 Epidemiology of Plague. J. A. Thompson.
22 Operations for Cataract. R. H. Elliot.
23 Extraction of Cataract in Capsule. H. Herbert.
24 *Visual Results in 40 Consecutive Extractions of the Lens by Smith's Method. J. C. S. Oxley.
25 Surgical Shock. J. F. Barnado.
26 Krönlein's Operation for Orbital Sarcoma. G. T. Birdwood.

24. **Visual Results Following Lens Extraction.**—A study of forty cases of extraction of the lens by Smith's method showed Oxley that 72.4 per cent. of the patients had first-class vision, and that 22.5 per cent. had second-class vision. He is confident that many of the latter patients will improve considerably in the course of a few months.

The Clinical Journal, London.

December 19.

27 *Lactated Milk in Infantile Diarrhea. F. E. Batten.
28 Etiology and Treatment of Psoriasis. J. M. H. Macleod.

December 26.

29 Cirrhosis of the Liver. N. Moore.
30 Cancer of the Breast. C. Stonebam.
31 Menaggio, Lake Como, Italy. E. F. Elliot.

January 2.

32 Cystitis. P. J. Meyer.
33 Acute Affections of the Respiratory Organs. G. R. Murray.
34 Dechloridation Treatment in Cardiac and Renal Disease, Obesity. A. S. Gubb.

January 9.

35 Vasomotor Symptoms and Their Bearing on the Diagnosis and Treatment of Disease. T. D. Savill, London.
36 Diagnosis of Common Swellings of the Long Bones. W. Trotter.

27. **Lactated Milk in Infantile Diarrhea.**—Batten is convinced of the efficacy of lactated milk in improving the condition of the stools in certain forms of diarrhea. He says that it is not a remedy which has any effect in the most acute stage of acute infective diarrhea of infants, but it is of use in the treatment of the catarrhal conditions which so frequently follow these acute attacks. In the more chronic forms of diarrhea and in cases of colitis, he deems it a remedy of considerable value. (Lactated milk is milk in which lactic-acid fermentation has been produced artificially.)

Liverpool School of Tropical Medicine.

September.

37 Experimental Study of Parasite of African Tick Fever. A. Breinl and A. Kinghorn.
38 New Spirochete Found in a Mouse. A. Breinl and A. Kinghorn.
39 Comparison Between the Trypanosomes Present by Day and by Night in the Peripheral Blood in Human Trypanosomiases. J. E. Dutton, J. L. Todd and E. N. Tobey.
40 Lesions in the Lymphatic Glands in Human Trypanosomiasis. R. H. Mole.
41 Certain Parasitic Protozoa Observed in Africa. J. E. Dutton, J. L. Todd, and E. N. Tobey.
42 Attempts to Cultivate Spirochæta Duttoni. L. A. Williams and R. S. Williams.
43 Attempts to Transmit Spirochetes by the Bites of Cimex Lectularius. A. Breinl, A. Kinghorn and J. L. Todd.

Dublin Journal of Medical Science.

December.

44 Cryoscopy of the Urine. L. G. Gunn.
45 Clinical Picture of Children's Diseases. W. L. Symes.
45½ Chemistry of Viola Odorata. H. W. Gadd.

Bulletin de l'Académie de Médecine, Paris.

Last indexed, page 179.

46 (LXX, No. 41, Pp. 479-524.) Blindness Among the Arabs. Boigey and Chauvel. (Cécité dans la race arabe.)
47 Treatment of Pneumonia with Metallic Ferments. A. Robin. (Traitement de la pneumonie.)
48 *Origin and Prophylaxis of Malaria. Laveran and Kermorgant. (Paludisme.)

48. **Mosquito Origin of Malaria.**—Laveran sustains the exclusive rôle of the anopheles in the transmission of malaria. He remarks that the statistics of malarial fevers in a place include those contracted elsewhere, but first manifesting themselves at the place in question, owing to the variable and sometimes very long period of incubation before appreciable symptoms of malaria develop. In the search for the anopheles, he adds, all the points liable to be visited by the inhabitants of a place must be examined, not merely their homes. A troop sent from France to Tunis and housed in healthy barracks at Constantine were ravaged by malarial fevers, and if no anopheles had been discovered at Constantine the fact would have been cited as an evidence against the mosquito theory. In reality, the troop landed at a distant point and had to march through a region infested with mosquitoes to reach Constantine, but the malarial infection there acquired did not manifest itself until long after their arrival at the barracks. A single anopheles, he adds, is capable of infecting a series of persons. The mosquitoes hibernate in cellars, barns, hollow trees, etc., and under the influence of a few warm days are liable to sally forth almost at any season. The malarial infection may remain latent and not manifest itself until after the individual has long left the malarial regions. Laveran has invariably found the malaria-bearing mosquitoes in specimens of mosquitoes sent from places in Africa having a reputation for malaria. Nicolot has recently reported that an army surgeon, in presence of an epidemic of supposed typhoid fever, to which his predecessor had succumbed, suspected malarial infection, and examined a number of mosquitoes; 10 out of 15 mosquitoes proved to be the anopheles, most of them gorged with human blood. Coste has also recently mentioned that in a certain province where 80 per cent. of the children are affected with enlargement of the spleen, the anopheles was found in the proportion of 95 per cent. Among other facts he cited is the absence of malaria among the workmen on the southern part of the Suez Canal until a ship brought a new lot of workmen when an epidemic of malaria broke out. It was found that some of the newly arrived workmen had been previously infected, and that numbers of anopheles lurked in the hold of the ship. It has proved possible to undertake and to complete extensive sanitary improvements requiring much turning up of the soil, without malarial sickness among the workmen, when the region had previously been cleared of anopheles. Laveran admits that it is possible for malaria to be transmitted in other ways than by mosquitoes, but, he says, that to date it has not been demonstrated. Some writers consider the soil the true home of the malarial germ, but he adds that he has had intimate relations for twenty-five years with the hematozoon of malaria, and he has never yet found it at home in the soil. He has never encountered it either in the water of marshes or in the dew from malarious places. Kermorgant states that New Caledonia is entirely free from malaria, and the anopheles has never been discovered there. Senegal is the only French colony in which systematic efforts in the line of the prophylaxis of malaria are under way. The work of the mosquito brigades during the last three years has given the most encouraging results.

Presse Médicale, Paris.

49 (XIV, Nos. 96-97, Pp. 765-780.) Address at Dedication of Pavilion for Children's Surgical Clinic. E. Kirmisson.
50 *Iron and the Liver. J. Castaigne. (Le foie et le fer.)
51 Protecting Rôle of Lymphatic Nodes. M. Labbé. (Le rôle protecteur des ganglions lymph.)
52 *Technic and Apparatus for General Anesthesia by Way of the Rectum. E. Vidal. (L'an. gén. par voie rectale.)
53 (Nos. 98-99, Pp. 781-796.) *Experiments in Synthetic Biology. Stéphane Leduc. (Les bases physiques de la vie et la biogenèse.)
54 Prophylaxis of Ozena. M. Lermoyez. (Comment nous garer de l'ozene?) See abstract 88 below.
55 Early, Perforating, Typhoid Cholecystitis. V. Vedel and L. Rimbaud. (Cholecystite perf. typh. précoce.)
56 Thyroid Secretions. M. Garnier. (Les sécrétions thyroïdiennes.)
57 The Syphilitic's Calendar. A. Martinet. (Le calendrier du syph.)
58 (Nos. 100-102, Pp. 797-820.) Cancer. G. H. Roger. (Le cancer.)
59 *Effects of Lumbar Puncture on Certain Cutaneous Phenomena. P. Ravaut. (Effets de la ponction lombaire sur quelques phén. cut.)
60 *Illumination of Houses. A. A. Rey. (L'hygiène de la lumière.)
61 *Exanthematous Typhoid Fever in Adults and Exanthemata in Typhoid Fever. C. Lesieur. (Fièvre typhoïde exanth. chez l'adulte et exanthèmes chez les typhiques.)
62 Aphasia and Anarthria. P. L. Ladame. (Aphasie et Anarthrie.)

50. **Iron and the Liver.**—Castaigne shows that in health the liver does not retain all the iron brought to it from destruction of red corpuscles or from the food. In case of over-functioning on the part of the liver, or of excessive destruction of red corpuscles, the liver cells may retain an excessive amount of iron. On the other hand, the proportion of iron in the liver may be below normal in certain pathologic conditions, especially in affections of the blood, such as chlorosis, and also in certain digestive disturbances necessitating restriction of the amount of food. The smallest proportions of iron in the liver have been observed in cases of anemia from external hemorrhage, in aplastic anemia and in certain forms of tuberculosis. In all these conditions there is an insufficiency on the part of the liver, which he ascribes to the deficiency of iron in the organ. Administration of iron to such patients improves the liver functioning before the blood shows any benefit from the medication. The liver stores up the iron and it is utilized in the production of new blood. He has also found iron effectual in treatment of certain cases of liver insufficiency, although he warns against its use when there is hyperfunctioning of the liver, as in cholemia. His experience confirms his previous assertions in regard to the stimulating action of iron on the liver and its secreting function.

52. **Ether by the Rectum.**—Vidal gives an illustrated description of the apparatus which he has found extremely useful for general anesthesia by way of the rectum. The anesthesia proceeds more smoothly when oxygen is injected with the ether, and his experience has been very favorable with this technic. There is no distension, a free outlet being provided for the gases. No by-effects are observed with this technic except possibly one or two watery passages during the day.

The rectum must be prepared with a purgative the day before and rinsed out with 2 liters of tepid water containing 8 grams of sodium bicarbonate.

53. **Synthetic Biology.**—Stéphane Leduc has succeeded by combining certain chemicals in producing cells which simulate living cells in every respect. Drops of a 5 per cent. solution of ferrocyanid of potassium sown in a 5 per cent. solution of gelatin form each an apparent cell with membrane envelope, protoplasm and nucleus. With other chemicals ciliated cells can be produced. These cells display the phenomena of two-way osmosis and molecular metabolism. Drying arrests the movements, but they return when the cells are moistened again. He stated that he has also succeeded in producing in electrolytic fluids the figures of karyokinesis in their regular order. That is, the forces of osmosis are able to produce all the movements of cell division in the regular order of karyokinesis. He describes the various means of producing these effects, stating as a law that the conservation of the cell is connected with the symmetry of the metabolism around the nucleus as the center. The multiplication of cells in malignant tumors is the consequence, he concludes, of the establishment in the cytoplasm of two centers of metabolism. The solid tissues of living beings result from the solidification of solutions of colloids and of crystallizable substances, the forces of crystallization intervening to influence shape and structure. The physical forces alone are able to induce the semblance of nutrition, organization and of growth, as he has witnessed again and again in his experiments. Only one function remains to be realized to complete the synthesis of simulated life in his experiments: reproduction in series. He regards this problem as of the same order as those already solved. [The *Presse Médicale* recently invited Leduc to visit Paris to deliver a lantern lecture on his researches which have attracted world-wide attention. The lecture is to be published later in pamphlet form with illustrations of his "man-made plants," etc.—ED.]

59. **Effects of Lumbar Puncture on Certain Cutaneous Phenomena.**—Ravaut has frequently had occasion to observe the great benefit from lumbar puncture and evacuation of a small amount of cerebrospinal fluid in cases of hydrocephalus from inherited syphilis and in convulsions in the course of some acute lung or intestinal affection, and also in cutaneous affections. A number of patients suffering from pruritus were cured by lumbar puncture and withdrawal of from 6 to 8 c.c. of fluid. Patients with circumscribed lichen, eczema without effusion and prurigo found that the itching ceased after the puncture, and that their lesions healed. One patient with prurigo for six months and another who had had it for four years had suffered to such an extent that sleep was impossible, but lumbar puncture with withdrawal of 20 c.c. of cerebrospinal fluid put an end to the itching in each case, and the lesions soon healed under appropriate measures. The procedure had to be repeated a week later in the second patient. Neither has had the slightest recurrence of the trouble during the month and six months since. Great relief was also experienced by 2 patients with ano-vulvar pruritus and slight tendency to eczema. No benefit was derived from the puncture in some cases of urticaria, vulvar pruritus and prurigino-us affections of the scalp, but the striking benefit in others justifies a trial of the method, he thinks, in every rebellious case. The effect of withdrawal of a few c.c. of fluid was also marked on the roseola of syphilis, on various erythemata, psoriasis and drug eruptions, but the effect was only transient. He ascribes the results observed to the modification of the blood by the withdrawal of the cerebrospinal fluid with a consequent influence on the peripheral nervous system, thus confirming the angioneurotic origin of certain dermatoses and of pruritus.

60. **Hygiene of Illumination.**—Rey continues his articles on the hygienic home with an installment dealing with the lighting of the house. He contends that the windows should be double and should extend from the ceiling to within a few inches of the floor of each room, and that the depth of the room should correspond to once and a half its height, no more, with the wall sloping in a curve into the ceiling to reflect the rays of light. Owing to the lesser resistance of children to tuberculosis during the first six years of life, rooms for the use of children should be the sunniest and the most hygienic of the entire home, with a balcony enclosed in wire netting, and with a separate sleeping room for the children and another for the nurse. He would banish from the sleeping room every article of furniture, clothing, etc., not strictly necessary for the night.

61. **Eruptive Typhoid Fever.**—In Lesieur's experience with both children and adults the digestive disturbances were, as a rule, mild and the prognosis was eminently favorable in cases of typhoid fever in which the cutaneous manifestations were most pronounced. He reports 2 cases of an erythem suggesting scarlet fever or measles, occuring in typhoid patients. In one of his patients the exanthem suggested that of measles at first, and later became a typical scarlatiniform eruption with general symptoms and long persisting desquamation.

Semaine Médicale, Paris.

63 (XXVI, No. 52, Pp. 613-624.) *Is Rubella Always a Mild Disease? L. Cheinisse. (La rubéole est-elle toujours bénigne?)

64 *How to Form New Medical Terms from Greek Roots. M. Sakorrhaphos. (Comment on doit former les néologismes médicaux du Grec.)

63. **Is Rubeola Always a Mild Affection?**—Cheinisse mentions that Aviragnet and Apert have recently published an account of an epidemic of German measles with 2 deaths in 10 cases, and others have asserted that if the temperature were taken more carefully in cases of rubeola it would be found febrile in many instances. Dournel's thesis last year reported an epidemic in a day nursery in which numerous complications were observed, including bilateral suppurative ear affections and abscess formation in some instances. Cheinisse admits that the resisting powers of the children were probably at a low ebb, but this factor in the seriousness of an infectious disease occurs as much with other diseases as with rubeola, and can not be taken into account in explaining the severe course of the disease in these epidemics.

64. **To Coin New Medical Terms from the Greek.**—Sakorrhaphos gives a number of useful points to be observed by those who wish to coin new medical terms to express new conceptions. The aim is to make the term concise, descriptive and luminous for readers of all languages, and this can easily be accomplished by observing a few simple principles of Greek construction. He also calls attention to the absurdity of such terms as "anemia," which means no blood, and "asystoly," which means no systole. The coiner of the term meant to express merely defective production or functioning, not total absence. He should have used the prefix "dys," as in dyspepsia, dyspnea, thus "dysemia," "dysystoly." The term "microbe" signifies in Greek merely a short-lived being, in contradistinction to a "macrobe," a long-lived being. Bacteria are not microbes in many instances. Everything that tends to simplicity and unity facilitates study and progress, he says, adding that if the present mania for coining new obscure terms persists, a dictionary in several volumes will have to be constantly consulted in reading scientific articles.

Archiv f. klinische Chirurgie, Berlin.

Last indexed, page 268.

65 (LXXX, No. 2, Pp. 278-566.) Experimental Study of Heteroplastic Bone Formation. E. Lek. (Exp. Beitrag zur Frage der heteropl. Knochenbildung.)

66 Treatment of Ankylosis of Elbow. M. Hofmann. (Behandlung der knochernen Ank. im Ellbogengelenk.)

67 Radical Operation for Large Umbilical and Abdominal Hernias. E. Graser. (Zur Technik der Rad.-Op. grosser Nabel- und Bauchwandhernien.)

68 Unusual Hemorrhages in Kidneys. Casper. (Zur ungew. Nierenbeckenblutungen.)

69 Firearm Wounds of Vessels. A. Brentano. (Gefassschüsse und ihre Behandlung.)

70 Plastic Operations on Palate. R. Bunge. (Zur Technik der Uranoplastie.)

71 Relations Between Ossifying Myositis and the Callus in Fractures. P. Frangenheim. (Beziehungen zw. der Myositis ossificans und dem Callus bei Fracturen.)

72 *Elimination of Bacteria in Sweat. L. Wrede. (Ausscheidung von Bakterien durch den Schweiss.) Id. C. Brunner.

73 Thymic Stenosis and Thymic Death. L. Rehn. (Thymusstenose und Thymustod.)

74 Voluntary Luxation of Hip Joint. H. Braun. (Ueber die willkürl. Verrenkungen des Hüftgelenks.)

75 Hematogenic Osteomyelitis from Actinomycosis. L. Wrede. (Hämatogene Osteomyelitis durch Aktinomykose.)

76 (No. 3, Pp. 567-842.) Treatment of Fractures. E. Ranzi. (Zur Behandlung von Frakturen.)

77 *Improved Technic for Removing High Rectal Cancer. P. Kraske. (Weitere Entwicklung der Op. für hochsitzender Mastdarmkrebse.)
78 *Aponeurotic Covering of Defects in Skull. Borchardt. (Zur aponeur. Deckung von Schädelfecten nach v. Hacker-Durante.)
79 Infection and Absorption of Bacteria in Pleural Cavity. W. Noetzel. (Infection und Bakterienresorption der Pleurahöhle. Exp. Untersuchung.)
80 False Aneurism. E. Hedinger. (Zur Lehre des Aneurysma spurium.)
81 Medical Experiences at the Front in Manchuria. Zoege v. Manteuffel. (Aerztliche Thätigkeit auf dem Schlachtfelde und in den vorderen Linien.)
82 *Transplantation of Thyroid Tissue into the Spleen. E. Payr. (Transplantation von Schilddrüsengewebe in die Milz.)
83 Epiphysis at Proximal End of Fifth Metatarsal Bone and the So-called Os Vesalianum of the Tarsus. D. A. Kirchner. (Die Epiphyse am prox. Ende des Os metatarsi V und das so-gen. Os. Vesalianum tarsi.)

72. **Elimination of Microbes in the Sweat.**—Brunner affirms the possibility and presents evidence to demonstrate in fact that microbes and cells may be eliminated in the sweat. He has repeated his experiments of 15 years ago, obtaining the same positive results. Wrede had negative results.

77. **Improved Technic for Removing High Rectal Cancer.**—Kraske comments on the further development of the technic for operative treatment of high rectal cancer since the growth has been attacked both from the rear and through a laparotomy. He reports 10 cases and remarks that this combined operation seems to be less dangerous for women than for men. His 3 female patients recovered, but only 5 of the 7 males, and Schlöffer had 8 male patients die out of 13, while the 10 female patients recovered. Of others operated on by the Quénu method, all but 1 of the 15 women recovered and only 1 of the 12 men. Whether this better result is due to the more favorable anatomic conditions in woman or to her greater resisting powers, it certainly suggests that—other conditions being equal—there need be less hesitancy in deciding to operate on a female than on a male patient. Kraske urges wider adoption of the abdomino-sacral or perineal route, not restricting it to the severer cases. Further perfecting of the technic will reduce the mortality, and he believes that this method has a great future. Displacement of the omentum with torsion of the transverse colon, the result of raising the pelvis, occurred in 2 of his cases, but he intends to avoid it hereafter by fastening the omentum after the laparotomy so that it can not slide down. Two other patients succumbed to collapse soon after the operation. No mishap occurred during his last 5 cases. He suggests the possibility of doing the operation under spinal anesthesia. Every means to shorten the procedure should be adopted, and he describes a number of minor points to aid in this line.

78. **Subaponeurotic Covering of Skull Defects.**—Borchard gives the details of a dozen cases in which the patients were operated on by the von Hacker-Durante method of taking a pedunculated flap consisting of periosteum and a slice of the bone, after turning back the skin, and using this flap to close the defect in the skull, suturing the skin again over the whole. The flap is thus transplanted under the skin, which permits prompt primary healing. The results were excellent in all his cases, even in a case of extensive injury of the meninges and in an infant only 14 days old.

82. **Transplantation of Thyroid Tissue into the Spleen.**—Payr's extensive experimental and clinical research is described in full, also the technic by which he implants thyroid tissue in the spleen, and the reasons for adopting this procedure as a remedy for thyroid insufficiency. The literature and history of transplantation of organs in general is also reviewed. He announces that the spleen is peculiarly adapted for implantation of all kinds of tissues, owing to the special conditions of its circulation. The circulation in the transplanted tissue is re-established with remarkable rapidity and a much smaller part succumbs to central necrosis than when implanted anywhere else. The processes of regeneration proceed with exceptional intensity and extent. Numerous experiments on animals have shown the technical measures necessary to avoid serious hemorrhage during the operation. The piece of tissue is implanted in a pocket made for it in the spleen, and it forms a living tampon for the blood-filled pulp of the spleen. The spleen is then sutured over it, and the sutures covered with omentum. He has succeeded by such implantations in keeping animals alive for 300 days after removal of the thyroid, even those extraordinarily sensitive to thyroidectomy. No symptoms due to loss of the thyroid were observed, which allows the assumption that the implanted organ continued a functionally active existence in its new location. A child with severe infantile myxedema given thyroid treatment for three and a half years without results has been treated by implanting in its spleen a large piece of healthy thyroid tissue taken from the mother. The results to date have been extremely satisfactory. The child has grown and developed both mentally and physically, and can scarcely be distinguished now from a normal child of her age (7 years). He remarks in conclusion that organs with a predominantly internal secretion seem better adapted to transplantation than others. Possibly they possess a greater independence in the organism, which manifests itself in case of transplantation as a more vigorous vital energy.

Berliner klinische Wochenschrift.

84 (XLIII, No. 47, Pp. 1499-1526.) Foundations of Modern Rhino-Laryngology. G. Killian. (Grundlagen der mod. Rhino-Lar.)
85 *Therapeutic Value of Absolute Rest for the Voice in Institutional Treatment of Laryngeal Tuberculosis. F. Semon. (Therap. Wert. vollständiger Stimmruhe bei der Anstaltsbehandlung der Kehlkopftub.)
86 *New Mode of Throwing Light into Canals and Cavities. von Schrötter. (Eine neue Beleuchtungsart von Kanälen und Höhlen.)
87 Two Cases of Extraction of Foreign Body from Bronchi by Means of Killian's Upper Bronchoscopy. O. Chiari. (Zur Kasuistik der direkten oberen Bronchoskopie nach Killian behufs Extraktion von Fremdkörpern aus den Bronchien.)
88 *Contagious Nature of Ozena. M. Lermoyez. (Contagion de l'ozène.)
89 Significance of "Anesthesia of the Upper Entrance to Larynx" in Paralysis of Recurrent Nerve. F. Massei. (Bedeutung der "Anästhesie des Kehlkopfeingangs" bei den Recurrenslähmungen.)
90 *Relations Between Visual Disturbances and Affections of the Posterior Ethmoidal Cell and Sphenoidal Sinus. A. Onodi. (Zur Lehre der durch Erkrankung der hintersten Siebbeinzelle und der Keilbeinhöhle bedingten Sehstörung und Erblindung.)
91 (No. 48, Pp. 1527-1554.) Substitution of Thumb with Great Toe. F. Krause. (Ersatz des Daumens aus der grossen Zehe.)
92 Meat Poisoning and Paratyphus. L. Zupnik. (Fleischvergiftung und Paratyphus.)
93 Sensitizers Against Tuberculosis. Gengou. (Zur Kenntnis der antituberkulösen Sensibilisatoren.)
94 *Primary Tuberculosis of the Nasal Mucosa. J. Fein. (Prim. Tuberkulose—Lupus—der Nasenschleimhaut.)
95 *Protection and Suture of the Perineum. K. Apfelstedt. (Dammschutz und Dammnaht.)
96 Hydrotherapy in Febrile Infectious Diseases. S. Munter. (Hydrotherapie bei fieberhaften Inf.-Kr.)

85. **Therapeutic Value of Rest of the Voice in Treatment of Laryngeal Tuberculosis.**—Semon expatiates on the difficulty of complete silence in the home environment, and on the great benefit when it can be enforced.

86. **New Method of Throwing Light into Cavities and Passages.**—Schrötter gives an illustrated description of his electric instrument for illuminating the bladder, urethra, etc. It is based on the principle that a strong light at one end of an enclosed glass tube is transmitted to the other end of the tube, which thus serves as an illuminator. This occurs even when the tube is curved. He uses four incandescent lights in the outer end of the tube, arranged in a circle in the enlargement for the purpose. The whole instrument is enclosed in a light-proof case, thus focusing the light at the tip of the tube.

88. **Contagion of Ozena.**—Lermoyez insists that ozena is contagious and requires prophylactic measures as well as syphilis and gonorrhea. In 6 instances brothers and sisters, a mother and daughter, husband and wife or a child and its nurse presented unmistakable evidence of contagion of one by the other. In the last-mentioned case the parents of the child had consulted their physician in regard to the ozena of the nurse, and he had assured them that there was no danger of contagion. In another case a woman with ozena married a healthy man who soon developed ozena, and their infant developed it in a few months.

90. **Visual Disturbances from Affections of Posterior Ethmoidal Cell.**—Onodi publishes an illustrated description of different arrangements of the parts in respect to the connection and relations between the posterior ethmoidal cell and the

sphenoidal sinus on one hand and the optic canal and sulcus on the other. These various relations throw light on the etiology of canalicular retrobulbar neuritis and optic atrophy of nasal origin. He has found 35 different anatomic settings of the parts.

94. **Tuberculosis of the Nasal Mucosa.**—Fein describes a case of what was probably primary tuberculosis in one turbinate bone. The patient was a trained nurse and was under observation for two and a half years without detection of any traces of a tuberculous process elsewhere. He knows of only one case like it on record. The process was restricted to one turbinate, a condition which has never been observed with lupus, to his knowledge.

95. **Protection of Perineum and Suture of Laceration.**—Apfelstedt is in charge of a maternity at Berlin which admits only primiparæ, and during the last seven years he has been using a method to protect the perineum, which is a combination of the Fritsch and Ritgen technics, and, in his opinion, offers many superior advantages. He asserts that his technic is physiologically correct, aseptic, rational and practical, while the technics advocated in the text-books do not fulfill these conditions.

The accoucheur sits on the edge of the bed, on the patient's left, leaning on his left forearm. The tips of the spread fingers of his left hand are applied to the rear of the perineum, on the right and left of the coccyx. The tips of the fingers of the right hand are applied to the groove between the protruding back of the head and the pubic arch, curving around the back of the head. Both thumbs are free. The right can be used to push back the skull from the floor of the pelvis toward the symphysis by pressing on the parietal bone. At the first indication of a new straining paroxysm the fingers of the right hand push the soft parts back under the pubic arch with strong pressure, endeavoring thus to reach the back of the child's neck without at the same time pushing the head down. The left hand, which at first was applied through the posterior perineum, somewhere between the frontal and parietal bones, works its way along striving to reach the anterior surface of the frontal bone during the strain of the labor pain. When the fingers reach this point they can aid the muscular action by pushing the head in the direction of the axis of the pelvic outlet, forward and upward. As the labor pain subsides, the head slides back a little and with it the point of vantage for the left hand, until another muscular contraction occurs, when the maneuver with both hands is repeated and again with each labor pain. When the head is ready to force its way out, the occipital portion of the head projecting from the vulva, the patient is instructed to breathe hard, to take from 150 to 170 strong inspirations and expirations each minute with open mouth and heaving chest. This has the effect of abolishing abdominal straining completely. The left fingers of the accoucheur resting on the edges of the orbit or the frontal prominences, the right fingers in the back of the child's neck, the right hand grasps the occiput but without the slightest downward pressure, the right thumb on or near the sagittal suture. The head of the child is thus balanced between the accoucheur's hands and is entirely in his power. The head is guided onward—a millimeter at a time—through the labia, while the left hand lifts the head and the right controls the direction, at the same time pushing back the soft parts of the pubic arch. The patient must be repeatedly admonished to keep up the rapid, strong breathing, as this suspends all abdominal straining during the outward passage of the head. When the perineum gradually slides back over the frontal bone, the chin can be grasped with the left hand and the head then can be rotated past the symphysis as the perineum slides over the face and chin. The head is not pressed downward, and thus further pressure on the perineum is avoided. Lifting up the head from the rear of the perineum reinforces the musculature of the pelvic floor in its physiologic function, and the head passes forward and upward in the normal direction. This reduces the inner pressure on the perineum, and enables the head to pass through the vulva more gradually and with less injury to the parts than with any other technic.

As soon as the head (not the head tumor) is visible, the patient is told that the birth is nearly complete, and the accoucheur shows her how to breathe deeply, strongly and rapidly, by illustrating it himself and having her try it during a pause in the labor pains. It would be undiplomatic to tell her to refrain from straining—she does this unconsciously as she breathes fast and vigorously. Other advantages of this technic are that the levator muscle is left free to retract the stretched parts at once, and that the entire procedure is aseptic, without direct contact with the perineum or the anus. Any fecal masses that present at the anus are noticed at once and can be wiped away by another person. In case of laceration he uses a thread with a curved needle on both ends. Each needle enters at the deepest point of the laceration, and after a semi-circular passage is brought out again 2 cm. beyond the margin of the laceration. As many tiers of these sutures are taken as the width of the laceration requires—never more than five. When the thread is drawn up it forms a heart-shaped figure, which gives exceptional strength to the suture, with other advantages which he enumerates.

Therapie der Gegenwart, Berlin.

Last indexed, page 87.

97 (XLVII, No. 8, Pp. 337-384.) Experimental Tests on Healthy Persons with Caffein, Digitalis and Camphor. F. Doctorowitsch. (Exp. Untersuchungen über blutdrucksteigernde Mittel am gesunden Menschen.)
98 *Pancreatic Diabetes. T. Brugsch. (Pankreasdiabetes.)
99 Strophanthus in Therapeutics. Focke. (Zur Strophanthus-Therapie.)
100 Chloroform as a Narcotic. F. Lämmerhirt. (Das Chl. in seiner symptomatischen Anwendung als Narcoticum.)
101 Hygiene of Childbirth. S. Gottschalk. (Zur Hyg. der Geburt.)
102 *True Plethora and Polycythemia. H. Hirschfeld. (Pleth. vera und Polycythämie.)
103 Latest works on Lumbar Puncture and Spinal Anesthesia. K. Kroner. (Ueber einige neuere Arbeiten zur Lumbalpunktion und Lumbalanästhesie.)
104 (No. 9, Pp. 385-432.) Medical Notes in Central Asia. M. Urstein. (Klinisches und Therapeutisches aus Mittelasien.)
105 *Nervous Liver Colic. C. A. Ewald. (Ueber nervöse Leberkolik.)
106 *Influence of Hydrochloric Acid on Experimentally Induced Uric Acid Deposits. H. Silbergleit. (Einfluss der Salzsäure auf exp. erz. Harnsäuredepots.)
107 *Treatment of Bronchial Asthma. G. Zuelzer. (Bronchial-Asthma.)
108 *Coincidence of Appendicitis and Pregnancy. E. Opitz. (Zur Frage des Zusammentreffens von Wurmfortsatzentzündung mit den Fortpflanzungsvorgängen beim Weibe.)
109 *Weakness of the Voice. H. Gutzmann. (Stimmschwäche-Phonasthenie.)
110 Herpes of Esophagus. A. Holub. (Herpes des Oesophagus.)

98. **Pancreatic Diabetes.**—Brugsch reviews the experimental evidence of the etiologic rôle of the pancreas in the production of human diabetes, and notes that excision of the pancreas produces glycosuria, but no abnormal metabolism of fats. Animals after extirpation of the pancreas never die in coma. A physiologic acidosis occurs when the carbohydrates are withdrawn from the diet, but the acidosis which occurs in diabetes is pathologic and never occurs as a result of the extirpation of the pancreas in animals. The occurrence of a severe form of diabetes with oxybutyric acid and acetone in the urine and with symptoms of coma indicates that the cause of the disease is situated elsewhere than in the pancreas. The absence of these symptoms is, however, no certain sign that the disease has its origin in the pancreas, for a severe form of diabetes may run its course for a long time under the form of a simple glycosuria. The fact that glycosuria may arise from affections of organs other than the pancreas indicates a possible participation of these organs (thyroid, adrenals, etc.) in the production of diabetes. The surest evidence that the pancreas is the organ at fault is a disturbance in the digestion and absorption of food, especially the fats and proteids. The occurrence of colicky pains in the upper part of the abdomen corroborates the view that the pancreas is affected. The differentiation of pancreatic from non-pancreatic diabetes is important from a therapeutic standpoint as it enables the diet to be suitably regulated. Pancreas tissue, fresh or in some pharmaceutic preparation, will be found useful. With the pancreas preparations, fat and proteids can be allowed. Opium is indicated to delay peristalsis and to favor absorption. In such cases the glycosuria will disappear on withdrawing carbohydrates, provided sufficient fat and proteids are given to cover the calorific need of the organism. In pancreatic diabetes, he adds, the emphasis should be laid on the pancreas rather than on the diabetes.

102. **Polycythemia.**—Hirschfeld reviews the history of this affection and discusses the treatment. Repeated venesections, which have been recommended, reduce the plethora temporarily, but have no permanent effect. Arsenic has been of little value and a food lacking in iron is without effect. The removal of the spleen was tried in one case, but without effect on the condition of the blood. This was to be expected, since it has been shown that polycythemia may exist without enlargement of the spleen. Hirschfeld believes that symptomatically at least much benefit may be expected from iodids, since Weber and Watson have shown that the viscosity of the blood is increased in polycythemia. This accounts for many of the disturbances, and it is known that the iodids have a marked influence in reducing the viscosity of the blood.

105. **Nervous Liver Colic.**—Ewald reports a case which strongly supports the contention that in nervous or hysteric individuals an affection may occur which presents all the

usual signs of gallstone colic with circumscribed tenderness of the region of the gall bladder and pain so severe as to require repeated doses of morphin and to lead to a morphin habit. In his case a woman of 30 presented these symptoms and operation was resorted to, without finding any signs of disease of the gall bladder or of the ducts. The operation brought no immediate relief of the pain, but this symptom gradually disappeared after the healing of the wound. Ewald is uncertain whether the operation acted as a means of suggestion or whether it may have relieved some tension in the neighborhood of the liver or perhaps had nothing to do with the patient's recovery.

106. **Action of HCl on Uric Acid Deposits.**—Silbergleit repeated the experiments of Van Loghem, who found that hydrochloric acid hindered the conversion of uric acid into acid sodium urate when the uric acid was injected under the skin or into the peritoneal cavity and the hydrochloric acid was given by the mouth. Silbergleit operated on fowls, destroying the kidney by injections of potassium bichromate, causing deposits in the tissues of the uric acid that would naturally be excreted in the urine. In the fowls to which hydrochloric acid was given no deposits of uric acid developed, while in those to which no acid was given abundant deposits were found. He also repeated Von Loghem's experiments on rabbits with the same results. The uric acid was more slowly dissolved than in the control animals, and the formation of acid sodium urate was prevented.

107. **Treatment of Asthma.**—Zuelzer ascribes the asthmatic paroxysm to expansion of the lung through irritation of the vagus nerve. That swelling of the mucous membrane of the bronchi and possibly bronchial spasm contribute to the clinical picture is not to be denied. That such an expansion of the lung can be produced by irritation of the vagus is easily proved by experiment. This experimental expansion of the lung can be promptly cut short by the administration of atropin. Zuelzer, therefore, advises the administration of atropin by hypodermic injection for attacks of asthma. A dose of 1 mg., he states, causes a reduction in the limits of the lung within from 10 to 15 minutes, with marked improvement in the subjective condition.

108. **Appendicitis and Pregnancy.**—Opitz concludes from his study of this subject that there is no special tendency to appendicitis in women during pregnancy, but that the pregnancy seems to confer a certain protection against this infection not only among women who have never had an attack of appendicitis, but also among those who have already experienced it. If, however, an acute attack or recurrence of appendicitis occurs during pregnancy, the danger is exceptionally great. About one-half of the fetuses perish whether operation is performed or not. Differentiation may be difficult. The treatment is in no way different from that which is proper in the absence of pregnancy, except as to the question of the propriety of emptying the uterus. This is only to be undertaken when peritonitis has attacked the uterus, or when labor pains have set in, or when it is known that the fetus is already dead. The uterus should be evacuated by vaginal Cesarean section before the operation on the appendix is begun. Under other conditions the fetus may continue its development after the operation for appendicitis.

109. **Weakness of the Voice.**—Gutzmann describes the failure of the voice in professional speakers and singers, and classifies the anomalies which entail weakness of the voice as organic, affecting the nose, throat or larynx, and functional, relating to the method of producing the voice. Functional alterations affect the method of breathing, the formation of the voice and the articulation of speech. Normal breathing should be by an inaudible inspiration, followed by a relatively long expiration. Some singers and speakers, for want of time to get sufficient air or because of obstructions in the nose, take an inspiration through the mouth which produces an audible hissing and has a bad effect on the mouth and throat. The production of the voice begins with many too abruptly, with a sort of explosion, which, if often repeated, has an unfavorable effect on the vocal organs. Other faults are due to the fact that the force of articulation is not properly adjusted to the loudness of the voice, so that the consonants are inadequately produced. Through insufficient action of the articulating organs (tongue and throat muscles), the larynx may have to move too much, entailing congestion and ready fatigue. Raising the base of the tongue gives an undesirable guttural tone to the voice and hinders the egress of the sound, thus necessitating unusual effort to produce the desired effect. Speakers should, therefore, form the "r" in the front part of the mouth. Careful investigation should determine which of these functional defects are present, as a guide to appropriate therapy. The principal remedy is appropriate exercise directed first to correcting the individual defects and then to training the speaker to co-ordination of effort on the part of the respiration, the larynx and the articulating organs to produce the desired speech with the least effort. While such defects and failure of the voice in older speakers are generally due to affections of the nose or throat, most of these patients are young, and are good subjects for training. The period required for successful treatment is variable, but in general from four to eight weeks are required.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

SKIN AND VENEREAL DISEASES, NERVOUS AND MENTAL DISEASES. Edited by W. L. Baum, M.D., H. T. Patrick, M.D., and W. Healy, A.B., M.D. Practical Medicine Series, Comprising Ten Volumes of the Year's Progress in Medicine and Surgery, under the general editorial charge of G. P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume X. Series 1906. Cloth. Pp. 254. Price, $1.25. Chicago: The Year-Book Publishers.

THE IMPORTANCE OF LARVAL CHARACTERS IN THE CLASSIFICATION OF MOSQUITOES. By Capt. S. R. Christophers, M.B., I.M.S. Scientific Memoirs, by Officers of the Medical and Sanitary Departments of the Government of India. New Series, No. 25. Issued under the authority of the Government of India by the Sanitary Commissioner with the Government of India, Simla. Paper. Pp. 18. Price, 8 annas, or 9d. Calcutta, India, 1906.

WOMAN—IN GIRLHOOD, WIFEHOOD, MOTHERHOOD. A Guide in the Maintenance of Her Own Health and that of Her Children. By M. Solis-Cohen, A.B., M.D., Instructor in Physical Diagnosis, University of Pennsylvania. Illustrated with Color Plates, Scientific Drawings and Half-tone Engravings, with Manikin Chart, printed in colors, with an index. Cloth. Pp. 469. Price, $2.00 net. Philadelphia: The John C. Winston Company.

LEUCOCYTOZOON CANIS. By Capt. S. R. Christophers, M.B., I.M.S. Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. New Series, No. 26. Issued under the authority of the Government of India by the Sanitary Commissioner with the Government of India, Simla. Paper. Pp. 16. Price, 12 annas, or 2d. Calcutta, India, 1906.

WOMAN. A Treatise on the Normal and Pathological Emotions of Feminine Love. By R. S. Talmey, M.D., Gynecologist in the Metropolitan Hospital and Dispensary, New York. For physicians and students of medicine, with twenty-two drawings in the text. Flexible leather. Pp. 228. Price, $3.00. New York: The Stanley Press Corporation.

PRACTICE OF OBSTETRICS. In Original Contributions, by American Authors. Edited by R. Peterson, A.B., M.D., Professor of Obstetrics and Gynecology in the University of Michigan, Ann Arbor. Illustrated with 523 engravings and 30 full-plate pages. Cloth. Pp. 1087. Price, $6.00. Philadelphia: Lea Bros. & Co.

NERVOUS DISEASES, ORGANIC AND FUNCTIONAL. M. A. Starr, M.D., Ph.D., LL.D., Sc.D., Professor of Neurology, Medical Department of Columbia University in the City of New York. Second Edition. Thoroughly Revised. Cloth. Pp. 816, Illustrations, 308. Price, $6.00 net. Philadelphia: Lea Bros & Co.

A STOMACH LESION IN GUINEA-PIGS Caused by Diphtheria Toxin, and its Bearing on Experimental Gastric Ulcer. By M. J. Rosenau and J. F. Anderson. Hygienic Laboratory. Bulletin No. 32, October, 1906. Pp. 23. Washington, D. C., Government.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Edited by R. H. Harte, M.D., Recorder of the Association. Volume twenty-four. Cloth. Pp. 591. Philadelphia: William J. Dornan, 1906.

TRANSACTIONS of the Joint Session of the Oklahoma State Medical Association with the Indian Territory Medical Association, held in Oklahoma City, May 7, 8 and 9, 1906. Cloth. Pp. 264.

CHARITY ORGANIZATION SOCIETY OF THE CITY OF NEW YORK. Twenty-fourth Annual Report, from October 1, 1905, to Sept. 30, 1906, inclusive. Paper. Pp. 166. New York.

EXPERIMENTAL ZOÖLOGY. By T. H. Morgan, Professor of Experimental Zoölogy, Columbia University. Cloth. Pp. 454. Price, $2.75 net. New York: The Macmillan Company.

OPHTHALMIC TERMS. By J. W. Croskey, M.D., Ophthalmic Surgeon to the Philadelphia Hospital. Second Edition. Paper. Pp. 80. Price, 25c. New York: Frederick Boger Publishing Co.